

**DUBLIN  
SAN RAMON  
SERVICES  
DISTRICT**



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Dublin, California 94568  
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May 24, 2005

Mr. Dave Todd  
Supervising Land and Water Use Analyst  
Office of Water Use Efficiency  
Post Office Box 942836  
Sacramento, CA 94236-0001

**Subject: Dublin San Ramon Services District  
"2005 Urban Water Management Plan Update"**

Dear Mr. Todd:

The Dublin San Ramon Services District (DSRSD) has completed the preparation of its "2005 Urban Water Management Plan Update" (2005 UWMP). The DSRSD 2005 UWMP has been prepared in accordance with the California Water Code Division 6, Part 2.6 "Urban Water Management Planning", Sections 10610 through 10657.

On May 17, 2005 the DSRSD Board of Directors adopted the 2005 UWMP at its regularly scheduled meeting. Please consider this letter and the enclosed DSRSD 2005 UWMP as the required DSRSD submittal to the Department of Water Resources in accordance with California Water Code Section 10644.

Please contact me at (925) 875-2242 if you have any questions.

Sincerely,

David K. Behrens, P.E.  
Principal Engineer

DKB:mb  
Enclosure

cc: Bert Michalczyk  
Dave Requa

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Service*

**DUBLIN SAN RAMON SERVICES DISTRICT**

7051 Dublin Blvd., Dublin, CA 94568

Mr. Dave Todd

Supervising Land and Water Use Analyst

Office of Water Use Efficiency

Post Office Box 942836

Sacramento, CA 94236-0001

It is a pleasure to send the enclosed material to you.



**Dublin San Ramon Services District**

**Urban Water Management Plan**

**2005 Update**

**Final**

**Prepared by**

**West Yost & Associates**

**May 2005**

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#### **APPENDIX A. California Urban Water Management Planning Act**

#### **APPENDIX B. Resolution to Adopt the 2005 Urban Water Management Plan**

#### **APPENDIX C. Water Supply Contracts and Agreements**

Contract between Zone 7 Water Agency and Dublin San Ramon Services District for a Municipal & Industrial Water Supply

Amendment No. 1 to Contract between Zone 7 Water Agency and Dublin San Ramon Services District for a Municipal & Industrial Water Supply (for supply to Dougherty Valley Service Area)

Agreement Concerning Implementation of Water Service for the Dougherty Valley Project

1999 Point of Delivery Agreement among the Department of Water Resources of the State of California, Zone 7 and the Kern County Water Agency

Amended Agreement between Zone 7 and Semitropic Water Storage District and its Improvement Districts for a Zone 7-Semitropic Water Banking and Exchange Program

## **APPENDIX D. Ordinances Related to Water Conservation and Water Recycling**

DSRSD Ordinance No. 242 Determining and Declaring a Water Emergency

DSRSD Ordinance No. 244 Amending Section 6 of Ordinance No. 242

DSRSD Ordinance No. 301 Formally Establishing the Rules and Regulations Governing the Use of Recycled Water

City of Dublin Ordinance No. 18-92 Water Efficient Landscape Ordinance

## **APPENDIX E. Final Revised Water Service Analysis for Eastern Dublin**

## **APPENDIX F. CUWCC Best Management Practices Report Filing 03-04**

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## EXECUTIVE SUMMARY

This 2005 Urban Water Management Plan (UWMP) for the Dublin San Ramon Services District (DSRSD) has been prepared in accordance with the requirements of the Urban Water Management Planning Act (most recently amended in 2004). A copy of the UWMP Act is contained in Appendix A of this 2005 UWMP. The requirements for an UWMP have changed somewhat since DSRSD prepared its 2000 UWMP. As such, this 2005 UWMP contains information not contained in previous versions of the UWMP, including additional analysis of water supply reliability and additional information on DSRSD's implementation of demand management measures.

The California Department of Water Resources has prepared a "Guidebook to Assist Water Suppliers in the Preparation of a 2005 Urban Water Management Plan," and "Review for Completeness" forms for use by water suppliers in preparing 2005 UWMPs. These materials have been very useful in the preparation of this 2005 UWMP for DSRSD.

To assist DWR in the review of this 2005 UWMP, the "Review for Completeness" forms have been filled out, and included as part of this 2005 UWMP. The following forms demonstrate the completeness of this 2005 UWMP, and provide references to applicable sections.

**2005 Urban Water Management Plan "Review for Completeness" Form  
For DWR Review Staff Use**

Yes

☐ Participated in area, regional, watershed or basin wide plan  
Name of plan \_\_\_\_\_ Lead Agency \_\_\_\_\_

N/A Reference & Page Number

N/A Reference & Page Number

☒ Describe the coordination of the plan preparation and anticipated benefits.

SECTION 2.2 Reference & Page Number

**Table 1  
Coordination with Appropriate Agencies**

Check at least one box on each row	Participated in developing the plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft plan	Was sent a notice of intention to adopt	Not involved / No information
Other water suppliers		X			X	X	
Water management agencies		X		X	X	X	
Relevant public agencies		X			X	X	
Public		X	X			X	
Other							

☒ Describe how water management tools / options maximize resources & minimize need to import water.

SECTION 3.1 Reference & Page Number

☒ Date updated and adopted plan received \_\_\_\_\_ (enter date)

SECTION 2.4 Reference & Page Number

☒ Notify any city or county within service area of UWMP of plan review & revision  
☒ Consult and obtain comments from cities and counties within service area

SECTION 2.3 Reference & Page Number

SECTION 2.3 Reference & Page Number

☒ Include current and projected population  
☒ Population projections were based on data from state, regional or local agency

SECTION 3.2 Reference & Page Number

TABLE 3-3 Reference & Page Number

**Table 2  
Population - Current and Projected**

	2005	2010	2015	2020	2025	2030 - opt
Service Area Population	47,754	63,590	72,820	78,617	78,617	78,617

☒ Describe climate characteristics that affect water management

SECTION 3.2 Reference & Page Number

☒ Describe other demographic factors affecting water management

SECTION 3.2 Reference & Page Number

**Table 3  
Climate**

	January	February	March	April	May	June
Standard Average ETo	0.82	1.47	2.92	4.4	5.57	6.66
Average Rainfall	2.99	2.77	2.47	0.96	0.43	0.09
Average Temperature	47.2	51.1	53.8	57.7	62.8	68.3

**Table 3 (continued)  
Climate**

	July	August	September	October	November	December	Annual
Average ETo	7.4	6.35	4.73	3.34	1.54	1.01	46.21
Average Rainfall	0.03	0.08	0.24	0.84	1.88	2.04	14.82
Average Temperature	72	71.9	69.6	63.2	53.2	47	59.81666667

☒ Identify existing and planned water supply sources  
☒ Provide current water supply quantities  
☒ Provide planned water supply quantities

SECTION 4.0 Reference & Page Number

SECTION 4.0 Reference & Page Number

SECTION 4.0 Reference & Page Number

**Table 4  
Current and Planned Water Supplies - AFY**

Water Supply Sources	2005	2010	2015	2020	2025	2030 - opt
Water purchased from:						
U.S. Bureau of Reclamation						

Department of Water Resources						
Arcade Water District						
Calleguas Municipal Water District						
Castaic Lake Water Agency						
Central Basin Municipal Water District						
Chino Basin Municipal Water District						
Coastal Municipal Water District						
Contra Costa Water District						
Eastern Municipal Water District						
Foothill Municipal Water District						
Humboldt Bay Municipal Water District						
Inland Empire Utilities Agency						
Joint Regional Water Supply System						
Kern County Water Agency						
Metropolitan Water District of Southern California						
Municipal Water District of Orange County						
North of The River Municipal Water District						
Placer County Water Agency						
Sacramento County Water Management District						
San Diego County Water Authority						
San Francisco City of						
San Juan Water District						
San Luis Obispo County						
Santa Clara Valley Water District						
Solano County Water Agency						
Sonoma County Water Agency						
Stockton East Water District						
Tehachapi-Cummings County Water District						
Three Valleys Municipal Utility District						
Upper San Gabriel Valley Municipal Water Facilities Authority						
West Basin Municipal Water District						
Western Municipal Water District of Riverside						
Zone 7	9,905	12,755	14,655	16,455	16,455	16,455
Other Wholesaler 1 (enter agency name)						
Other Wholesaler 2 (enter agency name)						
Other Wholesaler 3 (enter agency name)						
Supplier produced groundwater	645	645	645	645	645	645
Supplier surface diversions	0	0	0	0	0	0
Transfers in or out	0	0	0	0	0	0
Exchanges in or out	0	0	0	0	0	0
Recycled Water (projected use)	2,000	2,700	3,250	3,700	3,700	3,700
Desalination	0	0	0	0	0	0
Other						
Other						
Total	12,550	16,100	18,550	20,800	20,800	20,800

- ☒ Has management plan  
☐ Attached management plan (b)(1)  
☒ Description of basin(s) (b)(2)  
☐ Basin is adjudicated  
☐ If adjudicated, attached order or decree (b)(2)  
☒ Quantified amount of legal pumping right (b)(2)

SECT 4.1.3.4 Reference & Page Number  
 N/A Reference & Page Number  
 SECT 4.1.3.4 Reference & Page Number  
 No Reference & Page Number  
 N/A Reference & Page Number  
 SECT 4.2 Reference & Page Number

Table 5	
Groundwater Pumping Rights - AF Year	
Basin Name	Pumping Right - AFY
Livermore Valley GW Basin: Main Basin	645
Livermore Valley GW Basin: Fringe Basin	Unlimited
Total	645

- ☐ DWR identified, or projected to be, in overdraft (b)(2)  
☐ Plan to eliminate overdraft (b)(2)  
☒ Analysis of location, amount & sufficiency, last five years (b)(3)

N/A Reference & Page Number  
 N/A Reference & Page Number  
 TABLE 4-2 Reference & Page Number

☒ Analysis of location & amount projected, 20 years (b)(4)

SECT 4.2 Reference & Page Number

Table 6 Amount of Groundwater pumped - AFY					
Basin Name (a)	2000	2001	2002	2003	2004
Livermore Valley GW Basin	0	0	0	0	0
% of Total Water Supply	0.00%	0.00%	0.00%	0.00%	0.00%

Table 7 Amount of Groundwater projected to be pumped - AFY					
Basin Name (a)	2010	2015	2020	2025	2030 - opt
Livermore Valley GW Basin	645	645	645	645	645
% of Total Water Supply	4.0%	3.5%	3.1%	3.1%	3.1%

☒ Describes the reliability of the water supply and vulnerability to seasonal or climatic shortage

SECT 5.2.3 Reference & Page Number

Table 8 Supply Reliability - AF Year					
Average / Normal Water Year	Single Dry Water Year	Multiple Dry Water Years			
		Year 1	Year 2	Year 3	Year 4
100	100	100	100	100	100
% of Normal	100.0%	100.0%	100.0%	100.0%	100.0%

Table 9 Basis of Water Year Data	
Water Year Type	Base Year(s)
Average Water Year	2005
Single-Dry Water Year	1977
Multiple-Dry Water Years	1989-1992

SECT 7.2 Reference & Page Number

TABLE 5-1 Reference & Page Number

TABLE 5-1 Reference & Page Number

☒ Describe the reliability of the water supply due to seasonal or climatic shortages  
☒ Describe the vulnerability of the water supply to seasonal or climatic shortages  
☐ No unreliable sources

SECT 5.1.1.2 Reference & Page Number

SECT 5.2.3 Reference & Page Number

N/A Reference & Page Number

Table 10 Factors resulting in inconsistency of supply				
Name of supply	Legal	Environmental	Water Quality	Climatic
Zone 7 State Water Project Supply		X		X
Zone 7 Groundwater Supply			X	

☒ Describe plans to supplement or replace inconsistent sources with alternative sources or DMMs  
☐ No inconsistent sources

SECT 5.1.1.4 Reference & Page Number

N/A Reference & Page Number

☒ Describe short term and long term exchange or transfer opportunities  
☐ No transfer opportunities

SECT 5.2.2 Reference & Page Number

N/A Reference & Page Number

Table 11 Transfer and Exchange Opportunities - AF Year					
Transfer Agency	Transfer or Exchange	Short term	Proposed Quantities	Long term	Proposed Quantities
Zone 7/Cawelo Water District	Banking Program			X	120,000 AF
DSRSD/Berrenda Mesa Water District	Transfer			X	5,000 AF

Total			0		0
-------	--	--	---	--	---

<input type="checkbox"/>	Quantify past water use by sector	NO DATA	Reference & Page Number
<input checked="" type="checkbox"/>	Quantify current water use by sector	TABLE 6-2	Reference & Page Number
<input type="checkbox"/>	Project future water use by sector	NO DATA	Reference & Page Number

TABLE 12 - Past, Current and Projected Water Deliveries								
	2000				2005			
	metered		unmetered		metered		unmetered	
Water Use Sectors	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY
Single family	10,839	3,227				10,550		
Multi-family		213	No. of accounts as of December 2004					
Commercial	505	1,271	Deliveries shown are for 2003					
Industrial								
Institutional/gov		1,284						
Landscape	406	1,402						
Agriculture								
other	538	796						
Total	12,288	8,193	0	0	0	10,550	0	0

TABLE 12 (continued) - Past, Current and Project								
	2015				2020			
	metered		unmetered		metered		unmetered	
Water Use Sectors	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY
Single family		15,300				17,100		
Multi-family								
Commercial								
Industrial								
Institutional/gov								
Landscape								
Agriculture								
other								
Total	0	15,300	0	0	0	17,100	0	0

<input type="checkbox"/>	Identify and quantify sales to other agencies	N/A	Reference & Page Number
<input checked="" type="checkbox"/>	No sales to other agencies	N/A	Reference & Page Number

Table 13 Sales to Other Agencies - AF Year							
Water Distributed	2000	2005	2010	2015	2020	2025	2030 - opt
None		0	0	0	0	0	0
Total	0	0	0	0	0	0	0

<input checked="" type="checkbox"/>	Identify and quantify additional water uses	TABLE 6-4	Reference & Page Number
-------------------------------------	---------------------------------------------	-----------	-------------------------

Table 14 Additional Water Uses and Losses - AF Year							
Water Use	2000	2005	2010	2015	2020	2025	2030 - opt
Saline barriers	0	0	0	0	0	0	0
Groundwater recharge	0	0	0	0	0	0	0
Conjunctive use	Data shown for 2000 is 2003 data						
raw water	0	0	0	0	0	0	0
recycled	749	2000	2700	3250	3700	3700	3700
other (none)	0	0	0	0	0	0	0
Unaccounted-for system losses	793						
Total	1,542	2,000	2,700	3,250	3,700	3,700	3,700

Table 15 Total Water Use - AF Year							
Water Use	2000	2005	2010	2015	2020	2025	2030 - opt
Total of Tables 12, 13, 14	8,735	12,550	16,100	18,550	20,800	20,800	20,800

<input checked="" type="checkbox"/>	No future water supply projects or programs and no non-implemented / not scheduled DMM:	TABLE 8-1	Reference & Page Number
<input type="checkbox"/>	Cost-Benefit includes economic and non-economic factors (environmental, social, health, customer impact, and technological factors)	N/A	Reference & Page Number
<input type="checkbox"/>	Cost-Benefit analysis includes total benefits and total costs	N/A	Reference & Page Number
<input type="checkbox"/>	Identifies funding available for Projects with higher per-unit-cost than DMMs	N/A	Reference & Page Number
<input type="checkbox"/>	Identifies Suppliers' legal authority to implement DMMs, efforts to implement the measures and efforts to identify cost share partners	N/A	Reference & Page Number

Table 16 Evaluation of unit cost of water resulting from non-implemented / non-scheduled DMMs and planned water supply project and programs	
Non-implemented & Not Scheduled DMM / Planned Water Supply Projects (Name)	Per-AF Cost (\$)

<input type="checkbox"/>	No future water supply projects or programs		
<input checked="" type="checkbox"/>	Detailed description of expected future supply projects & programs	SECT 5.1.1.4	Reference & Page Number
<input checked="" type="checkbox"/>	Timeline for each proposed project	SECT 5.1.1.4	Reference & Page Number
<input type="checkbox"/>	Quantification of each projects normal yield (AFY)	N/A	Reference & Page Number
<input type="checkbox"/>	Quantification of each projects single dry-year yield (AFY)	N/A	Reference & Page Number
<input type="checkbox"/>	Quantification of each projects multiple dry-year yield (AFY)	N/A	Reference & Page Number

Table 17 Future Water Supply Projects							
Project Name	Projected Start Date	Projected Completion Date	Normal-year AF to agency	Single-dry year yield AF	Multiple-Dry-Year 1 AF	Multiple-Dry-Year 2 AF	Multiple-Dry-Year 3 AF
Zone 7/Altamont Water Treatment Plant		2009	12-24 mgd Phase 1; 42 mgd ultimate				
Zone 7/Wellhead Demineralization Project		2007	3 mgd per phase; 3 phases total				

<input checked="" type="checkbox"/>	Describes opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term su		
-------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--

Table 18 Opportunities for desalinated water	
Sources of Water	Check if yes
Ocean Water	NONE
Brackish ocean water	NONE
Brackish groundwater	NONE

<input checked="" type="checkbox"/>	Urban suppliers that are California Urban Water Conservation Council members may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g). The supplier's CUWCC Best Management Practices Report should be attached to the UWMP.		
<input checked="" type="checkbox"/>	Agency is a CUWCC member	SECTION 8.0	Reference & Page Number
<input checked="" type="checkbox"/>	2003-04 annual updates are attached to plan	APPENDIX F	Reference & Page Number
<input checked="" type="checkbox"/>	Both annual updates are considered completed by CUWCC website	NO	Reference & Page Number

<input type="checkbox"/>	Yes		
<input checked="" type="checkbox"/>	Agency receives, or projects receiving, wholesale water	SECT 4.1	Reference & Page Number
<input checked="" type="checkbox"/>	Agency provided written demand projections to wholesaler, 20 years	TABLE 7-1	Reference & Page Number

Table 19 Agency demand projections provided to wholesale suppliers - AFY					
Wholesaler	2010	2015	2020	2025	2030 - opt
Zone 7 Water Agency	13,400	15,300	17,100	17,100	17,100

- ☒ Wholesaler provided written water availability projections, by source, to agency, 20 years TABLE 7-1 Reference & Page Number  
(if agency served by more than one wholesaler, duplicate this table and provide the source availability for each wholesaler)

Table 20 Wholesaler identified & quantified the existing and planned sources of water- AFY					
Wholesaler sources	2010	2015	2020	2025	2030 - opt
Zone 7 Supply Sources	12,755	14,655	16,455	16,455	16,455

- ☒ Reliability of wholesale supply provided in writing by wholesale agency SECT 5.1.1.2 Reference & Page Number  
(if agency served by more than one wholesaler, duplicate this table and provide the source availability for each wholesaler)

Table 21 Wholesale Supply Reliability - % of normal AFY					
Wholesaler sources	Multiple Dry Water Years				
	Single Dry	Year 1	Year 2	Year 3	Year 4
State Water Project	11	36	36	36	36
Groundwater	100	100	100	100	100
Semitropic GW Banking Progra	100	100	100	100	100

Table 22 Factors resulting in inconsistency of wholesaler's supply				
Name of supply	Legal	Environment	Water Quality	Climatic
State Water Project		X		X
Groundwater			X	

**Water Shortage Contingency Plan Section**  
**Supply Action**

(Water Code 1032)  
(Water Code 1032(d))

- ☒ Provide stages of action TABLE 9-1 Reference & Page Number  
☒ Provide the water supply conditions for each stage TABLE 9-1 Reference & Page Number  
☒ Includes plan for 50 percent supply shortage TABLE 9-1 Reference & Page Number

Table 23 Water Supply Shortage Stages and Conditions RATIONING STAGES		
Stage No.	Water Supply Conditions	% Shortage
II	75% of normal	25%
III	60 to 75% of normal	25-40%
III	50 to 60% of normal	40-50%
IV	less than 50% of normal	>50%

**Water Shortage Contingency Plan Section**

(Water Code 1032(d))

- ☒ Identifies driest 3-year period SECT 9.3 Reference & Page Number  
☒ Minimum water supply available by source for the next three years SECT 9.3 Reference & Page Number

Table 24 Three-Year Estimated Minimum Water Supply - AF Year				
source**	Normal	Year 1	Year 2	Year 3
Zone 7 Supplies	9,905	9,905	10,475	11,045
DSRSD Groundwater IQ	645	645	645	645
<b>Total</b>	<b>10,550</b>	<b>10,550</b>	<b>11,120</b>	<b>11,690</b>

\*Note: If reporting after 2005, please change the column headers (Year 1, 2, & 3) to the appropriate years

**Preparation of Catastrophic Interruption Plan**

(Water Code 1032(d))

- ☒ Provided catastrophic supply interruption plan SECT 9.4 Reference & Page Number

Table 25

Preparation Actions for a Catastrophe	
Possible Catastrophe	Check If Discussed
Regional power outage	X
Earthquake	X
No water from State Water Project	X
No water from Zone 7	X

- ☒ List the mandatory prohibitions against specific water use practices during water shortages TABLE 9-3 Reference & Page Number

Table 26 Mandatory Prohibitions	
Examples of Prohibitions	Stage When Prohibition Becomes Mandatory
Using potable water for street washing	II
Use of hose to wash vehicles/boats	II
Initial filling or complete replacement of water in swimming	II
Use of potable water for sewer flushing or street cleaning	I
Use of potable water for compaction, dust control	I
Restaurants to serve water only upon request	II
Irrigation scheduling (odd/even days, times of day)	II

- ☒ List the consumption reduction methods the water supplier will use to reduce water use in the most restrictive stages with up to a 50% reduction. TABLE 9-3 Reference & Page Number

Table 27 Consumption Reduction Methods		
Consumption Reduction Methods	Stage When Method Takes Effect	Projected Reduction (%)
Use shut off nozzle on hoses	I	
Use a bucket to convey water rather than a hose	II	
Lawn irrigation scheduling (odd/even days, times of day)	II	
Cover pools and hot tubs when not in use	I	
Sweep paved areas; do not wash down	I	
Use water conserving appliances	I	

- ☒ List excessive use penalties or charges for excessive use SECT 9.6 Reference & Page Number

Table 28 Penalties and Charges	
Penalties or Charges	Stage When Penalty Takes Effect
Penalty for excess use	II
Charge for excess use	II

- ☒ Describe how actions and conditions impact revenues SECT 9.7 Reference & Page Number
- ☒ Describe how actions and conditions impact expenditures SECT 9.7 Reference & Page Number
- ☒ Describe measures to overcome the revenue and expenditure impacts SECT 9.7 Reference & Page Number



Table 29 Proposed measures to overcome revenue impacts	
Names of measures	Check if Discussed
Rate adjustment	X
Development of reserves	N/A
Excess Use Charges	X
Drought Surcharge	X

Table 30 Proposed measures to overcome expenditure impacts	
Names of measures	Check if Discussed
Rate Adjustment	X
Excess Use Charges	X
Drought Surcharge	X
name of measure	

#### Water Shortage Contingency Ordinance/Resolution

☒ Attach a copy of the draft water shortage contingency resolution or ordinance.

(Water Code § 10632 (h))

Appendix D Reference & Page Number

#### Reduction Measuring Mechanism

☒ Provided mechanisms for determining actual reductions

(Water Code § 10632 (i))

SECT 9.8 Reference & Page Number

Table 31 Water Use Monitoring Mechanisms	
Mechanisms for determining actual reductions	Type data expected (pop-up?)
Monitor flow at Zone 7 turnouts	Compare consumption with previous periods
Monthly billing of customers	More timely water use information to customers
Identification of high water users	Provide notices and information to high water users

#### Recycling Plan Agency Coordination

☒ Describe the coordination of the recycling plan preparation information to the extent available

Water Code § 10633

SECT 10.2.2 Reference & Page Number

Table 32 Participating agencies	
	participated
Water agencies	X
Wastewater agencies	X
Groundwater agencies	
Planning Agencies	

#### Wastewater System Description

☒ Describe the wastewater collection and treatment systems in the supplier's service area

(Water Code § 10633 (a))

SECT 10.1 Reference & Page Number

☒ Quantify the volume of wastewater collected and treated

SECT 10.1 Reference & Page Number

Table 33 Wastewater Collection and Treatment - AF Year							
Type of Wastewater	2000	2005	2010	2015	2020	2025	2030 - opt
Wastewater collected & treated in service area	3,650	5,700	7,000	3,600	9,300	10,400	10,600
Volume that meets recycled water standard	34	2,000	2,700	3,250	3,700	3,700	3700

#### Wastewater Disposal and Recycled Water Uses

- ☒ Describes methods of wastewater disposal
- ☒ Describe the current type, place and use of recycled water
- ☐ None
- ☒ Describe and quantify potential uses of recycled water

(Water Code § 10633 (a - d))

SECT 10.1 Reference & Page Number

SECT 10.3 Reference & Page Number

Reference & Page Number

SECT 10.3 Reference & Page Number

Table 34 Disposal of wastewater (non-recycled) AF Year	
-----------------------------------------------------------	--

Method of disposal	Treatment Level	2005	2010	2015	2020	2025	2030 - opt
LAVWMA	Secondary						
Name of method							
Name of method							
Name of method							
Total		0	0	0	0	0	0

Table 35 Recycled Water Uses - Actual and Potential (AFY)							
User type	Treatment Level	2005	2010	2015	2020	2025	2030 - opt
Agriculture		0	0	0	0	0	0
Landscape	Tertiary	2,000	2,700	3,250	3,700	3,700	3,700
Wildlife Habitat		0	0	0	0	0	0
Wetlands		0	0	0	0	0	0
Industrial		0	0	0	0	0	0
Groundwater Recharge		0	0	0	0	0	0
Total		2,000	2,700	3,250	3,700	3,700	3,700

☒ Determination of technical and economic feasibility of serving the potential uses SECT 10.2.2 Reference & Page Number

☒ Projected use of recycled water, 20 years SECT 10.4 Reference & Page Number

Table 36 Projected Future Use of Recycled Water in Service Area - AF Year					
	2010	2015	2020	2025	2030 - opt
Projected use of Recycled Water	2,700	3,250	3,700	3,700	3,700

☒ Compare UWMP 2000 projections with UWMP 2005 actual (§ 10633 (e)) SECT 10.4 Reference & Page Number  
☐ None SECT 10.4 Reference & Page Number

Table 37 Recycled Water Uses - 2000 Projection compared with 2005 actual - AFY		
User type	2000 Projection for 2005	2005 actual use
Agriculture	0	0
Landscape	950	1,233
Wildlife Habitat	0	0
Wetlands	0	0
Industrial	0	0
Groundwater Recharge	0	0
Other (user type)	2004 projection shown	2004 demand shown
Other (user type)		
Total	950	1,233

☒ Describe actions that might be taken to encourage recycled water uses SECT 10.5 Reference & Page Number  
☒ Describe projected results of these actions in terms of acre-feet of recycled water used per year SECT 10.4 Reference & Page Number

Table 38 Methods to Encourage Recycled Water Use					
Actions	AF of use projected to result from this action				
	2010	2015	2020	2025	2030 - opt
Financial incentives					
name of action					
name of action					
name of action					
name of action					
name of action					
name of action					
Total	0	0	0	0	0

☒ Provide a recycled water use optimization plan which includes actions to facilitate the use of recycled water (dual distribution systems, promote recirculating uses) SECT 10.5 Reference & Page Number

Supply and Demand Comparison - Single Dry Year		Water Code 10634
<input checked="" type="checkbox"/>	Discusses water quality impacts (by source) upon water management strategies and supply	SECT 5.1.1.4 Reference & Page Number
<input type="checkbox"/>	No water quality impacts projected	N/A

Table 39 Current & projected water supply changes due to water quality - percentage						
water source	2005	2010	2015	2020	2025	2030 - opt
None						

Supply and Demand Comparison - Normal		Water Code 10634
<input checked="" type="checkbox"/>	Compare the projected normal water supply to projected normal water use over the next 20 years, in 5-year increments.	TABLE 7-1 Reference & Page Number

Table 40 Projected Normal Water Supply - AF Year					
(from table 4)	2010	2015	2020	2025	2030 - opt
Supply	16,100	18,550	20,800	20,800	20,800
% of year 2005	128.3%	147.8%	165.7%	165.7%	165.7%

Table 41 Projected Normal Water Demand - AF Year					
(from table 15)	2010	2015	2020	2025	2030 - opt
Demand	16,100	18,550	20,800	20,800	20,800
% of year 2005	128.3%	147.8%	165.7%	165.7%	165.7%

Table 42 Projected Supply and Demand Comparison - AF Year					
	2010	2015	2020	2025	2030 - opt
Supply totals	16100	18550	20800	20800	20800
Demand totals	16100	18550	20800	20800	20800
Difference	0	0	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%	0.0%	0.0%

Supply and Demand Comparison - Single Dry Year		Water Code 10634
<input checked="" type="checkbox"/>	Compare the projected single-dry year water supply to projected single-dry year water use over the next 20 years, in 5-year increments.	TABLE 7-4 Reference & Page Number

Table 43 Projected single dry year Water Supply - AF Year					
	2010	2015	2020	2025	2030 - opt
Supply	13,400	15,300	17,100	17,100	17,100
% of projected normal					

Table 44 Projected single dry year Water Demand - AF Year					
	2010	2015	2020	2025	2030 - opt
Demand	10,750	12,325	13,675	13,675	13,675
% of projected normal					

Table 45 Projected single dry year Supply and Demand Comparison - AF Year					
	2010	2015	2020	2025	2030 - opt
Supply totals	13,400	15,300	17,100	17,100	17,100
Demand totals	10,750	12,325	13,675	13,675	13,675
Difference	2,650	2,975	3,425	3,425	3,425
Difference as % of Supply	19.8%	19.4%	20.0%	20.0%	20.0%
Difference as % of Demand	24.7%	24.1%	25.0%	25.0%	25.0%

☒ Project a multiple-dry year period (as identified in Table 9) occurring between 2006-2010 TABLE 7-5 Reference & Page Number and compare projected supply and demand during those years

Table 46					
	2006	2007	2008	2009	2010
Supply	11,120	11,690	12,260	12,830	13,400
% of projected normal					

Table 47					
	2006	2007	2008	2009	2010
Demand	8,730	9,235	9,740	10,245	10,750
% of projected normal					

Table 48					
	2006	2007	2008	2009	2010
Supply totals	11,120	11,690	12,260	12,830	13,400
Demand totals	8,730	9,235	9,740	10,245	10,750
Difference	2,390	2,455	2,520	2,585	2,650
Difference as % of Supply	21.5%	21.0%	20.6%	20.1%	19.8%
Difference as % of Demand	27.4%	26.6%	25.9%	25.2%	24.7%

☒ Project a multiple-dry year period (as identified in Table 9) occurring between 2011-2015 TABLE 7-5 Reference & Page Number and compare projected supply and demand during those years

Table 49					
	2011	2012	2013	2014	2015
Supply	13,780	14,160	14,540	14,920	15,300
% of projected normal					

Table 50					
	2011	2012	2013	2014	2015
Demand	11,065	11,380	11,695	12,010	12,325
% of projected normal					

Table 51					
	2011	2012	2013	2014	2015
Supply totals	13,780	14,160	14,540	14,920	15,300
Demand totals	11,065	11,380	11,695	12,010	12,325
Difference	2,715	2,780	2,845	2,910	2,975
Difference as % of Supply	19.7%	19.6%	19.6%	19.5%	19.4%
Difference as % of Demand	24.5%	24.4%	24.3%	24.2%	24.1%

☒ Project a multiple-dry year period (as identified in Table 9) occurring between 2016-2020 TABLE 7-5 Reference & Page Number and compare projected supply and demand during those years

Table 52					
	2016	2017	2018	2019	2020
Supply	15,660	16,020	16,380	16,740	17,100
% of projected normal					

Table 53					
	2016	2017	2018	2019	2020
Demand	12,595	12,865	13,135	13,405	13,675
% of projected normal					

Table 54					
	2016	2017	2018	2019	2020
Supply totals	15,660	16,020	16,380	16,740	17,100

<b>Demand totals</b>	<b>12,595</b>	<b>12,865</b>	<b>13,135</b>	<b>13,405</b>	<b>13,675</b>
<b>Difference</b>	<b>3,085</b>	<b>3,155</b>	<b>3,245</b>	<b>3,335</b>	<b>3,425</b>
<b>Difference as % of Supply</b>	<b>19.6%</b>	<b>19.7%</b>	<b>19.8%</b>	<b>19.9%</b>	<b>20.0%</b>
<b>Difference as % of Demand</b>	<b>24.3%</b>	<b>24.5%</b>	<b>24.7%</b>	<b>24.9%</b>	<b>25.0%</b>

- ☒ Project a multiple-dry year period (as identified in Table 9) occurring between 2021-2025 TABLE 7-5 Reference & Page Number and compare projected supply and demand during those years

Table 55					
	2021	2022	2023	2024	2025
<b>Supply</b>	17,100	17,100	17,100	17,100	17,100
<b>% of projected normal</b>					

Table 56					
	2021	2022	2023	2024	2025
<b>Demand</b>	13,675	13,675	13,675	13,675	13,675
<b>% of projected normal</b>					

Table 57					
	2021	2022	2023	2024	2025
<b>Supply totals</b>	17,100	17,100	17,100	17,100	17,100
<b>Demand totals</b>	13,675	13,675	13,675	13,675	13,675
<b>Difference</b>	3,425	3,425	3,425	3,425	3,425
<b>Difference as % of Supply</b>	20.0%	20.0%	20.0%	20.0%	20.0%
<b>Difference as % of Demand</b>	25.0%	25.0%	25.0%	25.0%	25.0%

**Provision of Water Service Reliability section to cities and counties within which it** WATER CODE § 0335(b)

- ☒ Provided Water Service Reliability section of UWMP to cities and counties within which it provides water supplies within 60 days of UWMP submission to DWR SECT 2.3 Reference & Page Number

**Does UWMP include Public Participation and Plan Adoption** WATER CODE § 0302

- ☒ Attach a copy of adoption resolution APPENDIX B Reference & Page Number
- ☒ Encourage involvement of social, cultural & economic community groups SECT 2.2 Reference & Page Number
- ☒ Plan available for public inspection SECT 2.2 Reference & Page Number
- ☒ Provide proof of public hearing APPENDIX B Reference & Page Number
- ☒ Provided meeting notice to local governments Reference & Page Number

**Reviewed implementation plan and schedule of 2000 UWMP** WATER CODE § 0303

- ☒ Reviewed implementation plan and schedule of 2000 UWMP SECT 2.1 Reference & Page Number
- ☒ Implemented in accordance with the schedule set forth in plan N/A Reference & Page Number
- ☒ 2000 UWMP not required N/A Reference & Page Number

**Provide 2005 UWMP to DWR, and cities and counties within 30 days of adoption** WATER CODE § 0303

- ☒ Provide 2005 UWMP to DWR, and cities and counties within 30 days of adoption SECT 2.4 Reference & Page Number

**Does UWMP or correspondence accompanying it show where it is available for public review** WATER CODE § 0302

- ☒ Does UWMP or correspondence accompanying it show where it is available for public review SECT 2.2 Reference & Page Number

**2005 Urban Water Management Plan "Review of DMMs for Completeness" Form  
For DWR Review Staff Use**

**Water Survey Programs for Single-Family and Multi-Family Residential Customers (10631 (f)(2))**

**Implementation**

(Section 10631 (f))

☒ Describe demand management measure currently being implemented or scheduled for implementation (10631 (f) (1)(2)) SECT 8.1 Reference & Page Number

Year program started 1999 or Year program scheduled to start \_\_\_\_\_

☒ Describes steps necessary to implement measure SECT 8.1 Reference & Page Number

Table A1					
Actual	2001	2002	2003	2004	2005
# of single family surveys				84	
# of multifamily surveys				10	
actual expenditures - \$					
actual water savings - AFY					

Table A2					
Planned	2006	2007	2008	2009	2010
# of single family surveys					
# of multifamily surveys					
projected expenditures - \$					
projected water savings - AFY					

☐ Describe the methods, if any, used to evaluate the effectiveness of this demand management measure (10631 (f)(3)) N/A Reference & Page Number

☐ Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4)) N/A Reference & Page Number

**Provided an evaluation for this DMM if it is not implemented**

(Section 10631 (g))

- ☐ Evaluate legal authority (10631 (g)(4))
- ☐ Evaluate economic and non-economic factors (10631 (g)(1))
- ☐ Evaluate environmental, social, health factors (10631 (g)(1))
- ☐ Evaluate customer impact & technological factors (10631 (g)(1))

Table A3 - 10631 (g)(2)	
Cost Effectiveness Summary	
Total Costs	
Total Benefits	
Discount Rate	
Time Horizon	
Cost of Water (\$ per AF)	
Water Savings (AFY)	

- ☐ Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4))
- ☐ Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h))

**If Another Agency Implementing**

☐ If another Agency is implementing (10631 (g)(4))

Agency Name
N/A

**Residential Plumbing Program (10631 (g)(3))**

**Implementation**

(Section 10631 (f) & (h))

☒ Describe demand management measure currently being implemented or scheduled for implementation (10631 (f) (1)(2)) SECT 8.2 Reference & Page Number

Year program started 1992 or Year program scheduled to start \_\_\_\_\_

☒ Describes steps necessary to implement measure SECT 8.2 Reference & Page Number

# of pre-1992 SF accounts 5000

# of pre-1992 MF accounts 1000

Table B1					
Actual	1992-2001	2002	2003	2004	2005
# of single family devices	1050	80	139	29	
# of multi-family devices					
actual expenditures - \$	\$78,750	\$6,000	\$10,425	\$2,175	
actual water savings - AFY	\$59	\$4	\$8	\$2	

Table B2					
Planned	2006	2007	2008	2009	2010
# of single family devices					
# of multi-family devices					
projected expenditures - \$					
projected water savings - AFY					

☒ Describe the methods, if any, used to evaluate the effectiveness of this demand management measure (10631 (f)(3)) SECT 8.2 Reference & Page Number

☒ Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4)) SECT 8.2 Reference & Page Number

**Provided an evaluation for this DMM if it is not implemented**

**(Section 10631 (g))**

- ☐ Evaluate legal authority (10631 (g)(4))
- ☐ Evaluate economic and non-economic factors (10631 (g)(1))
- ☐ Evaluate environmental, social, health factors (10631 (g)(1))
- ☐ Evaluate customer impact & technological factors (10631 (g)(1))

Table B3 - 10631 (g)(2)	
Cost Effectiveness Summary	
Total Costs	
Total Benefits	
Discount Rate	
Time Horizon	
Cost of Water	
Water Savings (AFY)	

- ☐ Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4))
- ☐ Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h))

**If Another Agency Implementing**

- ☐ If another Agency is implementing (10631 (g)(4))

Agency Name
N/A

**SECT 8.3 (f)(4) - DEMAND MANAGEMENT MEASURE (10631 (g)(4))**

**Implementation**

**(Section 10631 (f) & (h))**

☒ Describe demand management measure currently being implemented or scheduled for implementation (10631 (f) (1)(2)) SECT 8.3 Reference & Page Number

Year program started 1994 or Year program scheduled to start \_\_\_\_\_

☒ Describes steps necessary to implement measure SECT 8.3 Reference & Page Number

Year of last complete audit 1994 Year of next complete audit \_\_\_\_\_

Table C1					
Actual	2001	2002	2003	2004	2005
% of unaccounted water	14.7	9.5	8.8		
miles of mains surveyed					
miles of lines repaired					

actual expenditures - \$					
actual water savings - AFY					

Table C2					
Planned	2006	2007	2008	2009	2010
% of unaccounted water					
miles of mains surveyed					
miles of lines repaired					
projected expenditures - \$					
projected water savings - AFY					

- ☒ Describe the methods, if any, used to evaluate the effectiveness of this demand management measure (10631 (f)(3)) SECT 8.3 Reference & Page Number
- ☐ Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4)) N/A Reference & Page Number

**Provided an evaluation for this DMM if it is not implemented**

(Section 10631 (g))

- ☐ Evaluate legal authority (10631 (g)(4))
- ☐ Evaluate economic and non-economic factors (10631 (g)(1))
- ☐ Evaluate environmental, social, health factors (10631 (g)(1))
- ☐ Evaluate customer impact & technological factors (10631 (g)(1))

Table C3 - 10631 (g)(2)	
Cost Effectiveness Summary	
Total Costs	
Total Benefits	
Discount Rate	
Time Horizon	
Cost of Water	
Water Savings (AFY)	

- ☐ Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4))
- ☐ Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h))

**If Another Agency Implementing**

- ☐ If another Agency is implementing (10631 (g)(4))

Agency Name
N/A

**Water as a Commodity Rates (10631 (f)(4)(d))**

**Implementation**

(Section 10631 (f) & (h))

- ☒ Describe demand management measure currently being implemented or scheduled for implementation (10631 (f) (1)(2)) SECT 8.4 Reference & Page Number

Year program started \_\_\_\_\_ or Year program scheduled to start \_\_\_\_\_

- ☒ Describes steps necessary to implement measure SECT 8.4 Reference & Page Number

Total number of accounts 12288 # of accounts w/o commodity rates 0

Table D1					
Actual	2001	2002	2003	2004	2005
# of unmetered accounts	0	0	0	0	0
# of retrofit meters installed				5538	
# of accounts w/o commodity rates	0	0	0	0	0
actual expenditures - \$					
actual water savings - AFY					

Table D2					
Planned	2006	2007	2008	2009	2010
# of unmetered accounts					
# of retrofit meters installed					



# of accounts w/o commodity rates					
projected expenditures - \$					
projected water savings - AFY					

- ☒ Describe the methods, if any, used to evaluate the effectiveness of this demand management measure (10631 (f)(3)) SECT 8.4 Reference & Page Number
- ☐ Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4)) N/A Reference & Page Number

**Provided an evaluation for this DMM if it is not implemented**

(Section 10631 (g))

- ☐ Evaluate legal authority (10631 (g)(4))
- ☐ Evaluate economic and non-economic factors (10631 (g)(1))
- ☐ Evaluate environmental, social, health factors (10631 (g)(1))
- ☐ Evaluate customer impact & technological factors (10631 (g)(1))

Table D3 - 10631 (g)(2)	
Cost Effectiveness Summary	
Total Costs	
Total Benefits	
Discount Rate	
Time Horizon	
Cost of Water	
Water Savings (AFY)	

- ☐ Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4))
- ☐ Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h))

**If Another Agency Implementing**

- ☐ If another Agency is implementing (10631 (g)(4))

Agency Name
N/A

**Large Landscape Conservation Programs and Incentives (10631 (f)(1)(e))**

**Implementation**

(Section 10631 (f) & (h))

- ☒ Describe demand management measure currently being implemented or scheduled for implementation (10631 (f) (1)(2)) SECT 8.5 Reference & Page Number

Year program started 1998 or Year program scheduled to start \_\_\_\_\_

- ☒ Describes steps necessary to implement measure SECT 8.5 Reference & Page Number

# of landscape accounts \_\_\_\_\_ # of landscape accounts with budgets \_\_\_\_\_

# of CII accounts \_\_\_\_\_ # of CII accounts w/ landscape surveys \_\_\_\_\_

(CII mixed use meters)

Table E1					
Actual	2001	2002	2003	2004	2005
# of budgets developed					
# of surveys completed					
# of follow-up visits					
actual expenditures - \$					
actual water savings - AFY					

Table E2					
Planned	2006	2007	2008	2009	2010
# of budgets developed					
# of surveys completed					
# of follow-up visits					
projected expenditures - \$					
projected water savings - AFY					

- ☒ Describe the methods, if any, used to evaluate the effectiveness of this demand management measure (10631 (f)(3)) SECT 8.5 Reference & Page Number
- ☐ Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4)) N/A Reference & Page Number

**Provided an evaluation for this DMM if it is not implemented**

(Section 10631 (g))

- ☐ Evaluate legal authority (10631 (g)(4))
- ☐ Evaluate economic and non-economic factors (10631 (g)(1))
- ☐ Evaluate environmental, social, health factors (10631 (g)(1))
- ☐ Evaluate customer impact & technological factors (10631 (g)(1))

Table E3 - 10631 (g)(2)	
Cost Effectiveness Summary	
Total Costs	
Total Benefits	
Discount Rate	
Time Horizon	
Cost of Water	
Water Savings (AFY)	

- ☐ Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4))
- ☐ Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h))

**If Another Agency Implementing**

- ☐ If another Agency is implementing (10631 (g)(4))

Agency Name
N/A

**High-Efficiency Washing Machine Rebate Programs (10631 (f)(1)(i))**

**Implementation**

(Section 10631 (f) & (h))

- ☒ Describe demand management measure currently being implemented or scheduled for implementation (10631 (f) (1)(2)) SECT 8.6 Reference & Page Number
- Year program started 1998 or Year program scheduled to start
- Other agencies offer rebates  Cost-effectiveness calcs attached

- ☒ Describes steps necessary to implement measure SECT 8.6 Reference & Page Number

Table F1					
Actual	2001	2002	2003	2004	2005
\$ per rebate	75	75	75	75	75
# of rebates paid	115	246	328	80	
actual expenditures - \$	\$8,625	\$18,450	\$24,600	\$6,000	
actual water savings - AFY	\$2	\$4	\$5	\$1	

Table F2					
Planned	2006	2007	2008	2009	2010
\$ per rebate					
# of rebates paid					
projected expenditures - \$					
projected water savings - AFY					

- ☐ Describe the methods, if any, used to evaluate the effectiveness of this demand management measure (10631 (f)(3)) N/A Reference & Page Number
- ☒ Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4)) SECT 8.6 Reference & Page Number

**Provided an evaluation for this DMM if it is not implemented**

(Section 10631 (g))

- ☐ Evaluate legal authority (10631 (g)(4))
- ☐ Evaluate economic and non-economic factors

Table F3 - 10631 (g)(2)	
Cost Effectiveness Summary	
Total Costs	

- ☐ (10631 (g)(1))  
Evaluate environmental, social, health factors
- ☐ (10631 (g)(1))  
Evaluate customer impact & technological factors
- ☐ (10631 (g)(1))

Total Benefits	
Discount Rate	
Time Horizon	
Cost of Water	
Water Savings (AFY)	

- ☐ Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4))
- ☐ Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h))

**If Another Agency Implementing**

- ☐ If another Agency is implementing (10631 (g)(4))

Agency Name
N/A

10631 (g)(3) & (h)

**Implementation**

(Section 10631 (f))

- ☒ Describe demand management measure currently being implemented or scheduled for implementation (10631 (f) (1)(2))

SECT 8.7 Reference & Page Number

Year program started \_\_\_\_\_ or Year program scheduled to start \_\_\_\_\_

- ☒ Describes steps necessary to implement measure

SECT 8.7 Reference & Page Number

Table G1					
Actual	2001	2002	2003	2004	2005
a. paid advertising					
b. Public Service Announcement					
c. Bill Inserts / Newsletters / Brochures	X	X	X	X	X
d. Bill showing water usage in comparison to previous year's usage	X	X	X	X	X
e. Demonstration Gardens	X	X	X	X	X
f. Special Events, Media Events	X	X	X	X	X
g. Speaker's Bureau					
h. Program to coordinate with other government agencies, industry and public interest groups and media					
actual expenditures - \$					

Table G2					
Planned	2001	2002	2003	2004	2005
a. paid advertising					
b. Public Service Announcement					
c. Bill Inserts / Newsletters / Brochures					
d. Bill showing water usage in comparison to previous year's usage					
e. Demonstration Gardens					
f. Special Events, Media Events					
g. Speaker's Bureau					
h. Program to coordinate with other government agencies, industry and public interest groups and media					
Projected expenditures - \$					

- ☐ Describe the methods, if any, used to evaluate the effectiveness of this demand management measure (10631 (f)(3))

N/A Reference & Page Number

**Provided an evaluation for this DMM if it is not implemented**

(Section 10631 (g))

- ☐ Evaluate legal authority  
(10631 (g)(4))

Table G3 - 10631 (g)(2)
Cost Effectiveness Summary

- ☐ Evaluate economic and non-economic factors (10631 (g)(1))
- ☐ Evaluate environmental, social, health factors (10631 (g)(1))
- ☐ Evaluate customer impact & technological factors (10631 (g)(1))

Total Costs	
Total Benefits	
Discount Rate	
Time Horizon	
Cost of Water	
Water Savings (AFY)	

- ☐ Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4))
- ☐ Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h))

**If Another Agency Implementing**

- ☐ If another Agency is implementing (10631 (g)(4))

Agency Name
N/A

**Section 10631 (f)(1)(ii)**

**Implementation**

(Section 10631 (f) & (h))

- ☒ Describe demand management measure currently being implemented or scheduled for implementation (10631 (f) (1)(2))

SECT 8.8

Reference & Page Number

Year program started \_\_\_\_\_ or Year program scheduled to start \_\_\_\_\_

- ☒ Describes steps necessary to implement measure

SECT 8.8

Reference & Page Number

Table H1		No. of class presentations				
Actual	# of classes	2001	2002	2003	2004	2005
Grades K-3rd						
Grades 4th-6th						
Grades 7th-8th						
High School						
actual expenditures - \$						

Table H2		No. of class presentations				
Actual	# of classes	2006	2007	2008	2009	2010
Grades K-3rd						
Grades 4th-6th						
Grades 7th-8th						
High School						
projected expenditures - \$						

- ☐ Describe the methods, if any, used to evaluate the effectiveness of this demand management measure (10631 (f)(3))
- ☐ Did your agency's material meet state education framework requirements?

N/A

Reference & Page Number

N/A

Reference & Page Number

**Provided an evaluation for this DMM if it is not implemented**

(Section 10631 (g))

- ☐ Evaluate legal authority (10631 (g)(4))
- ☐ Evaluate economic and non-economic factors (10631 (g)(1))
- ☐ Evaluate environmental, social, health factors (10631 (g)(1))
- ☐ Evaluate customer impact & technological factors (10631 (g)(1))

Table H3 - 10631 (g)(2)	
Cost Effectiveness Summary	
Total Costs	
Total Benefits	
Discount Rate	
Time Horizon	
Cost of Water	
Water Savings (AFY)	

- ☐ Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4))
- ☐ Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h))

**If Another Agency Implementing**

☐ If another Agency is implementing (10631 (g)(4))

<b>Agency Name</b>
N/A

**Conservation Programs for Commercial, Industrial & Institutional - Total Replacement (10631 (g)(1)(i))**

**Implementation**

(Section 10631 (f) & (h))

☒ Describe demand management measure currently being implemented or scheduled for implementation (10631 (f) (1)(2)) SECT 8.9 Reference & Page Number

Year program started \_\_\_\_\_ or Year program scheduled to start \_\_\_\_\_

☒ Describes steps necessary to implement measure SECT 8.9 Reference & Page Number  
# of Commercial accounts \_\_\_\_\_ # of Industrial accounts \_\_\_\_\_ # of Institutional accounts \_\_\_\_\_

Table I1					
Actual	2001	2002	2003	2004	2005
# of surveys completed					
Were incentives provided?					
# of follow-up visits					
actual expenditures - \$					
actual water savings - AFY					

Table I2					
Planned	2006	2007	2008	2009	2010
# of surveys completed					
Were incentives provided?					
# of follow-up visits					
projected expenditures - \$					
projected water savings - AFY					

☐ Describe the methods, if any, used to evaluate the effectiveness of this demand management measure (10631 (f)(3)) N/A Reference & Page Number

☐ Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4)) N/A Reference & Page Number

**Provided an evaluation for this DMM if it is not implemented**

(Section 10631 (g))

- ☐ Evaluate legal authority (10631 (g)(4))
- ☐ Evaluate economic and non-economic factors (10631 (g)(1))
- ☐ Evaluate environmental, social, health factors (10631 (g)(1))
- ☐ Evaluate customer impact & technological factors (10631 (g)(1))

Table I3 - 10631 (g)(2)	
Cost Effectiveness Summary	
Total Costs	
Total Benefits	
Discount Rate	
Time Horizon	
Cost of Water	
Water Savings (AFY)	

☐ Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4))

☐ Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h))

**If Another Agency Implementing**

☐ If another Agency is implementing (10631 (g)(4))

<b>Agency Name</b>
N/A

**Conservation Programs for Commercial, Industrial & Institutional - Total Replacement (10631 (g)(1)(i))**

(this data is part of the Council Annual Report but is not specifically requested in the UWMP Act)

change

**Implementation**

(Section 10631 (f) & (h))

5/11/2005

☐ Describe demand management measure currently being implemented or scheduled for implementation (10631 (f) (1)(2)) N/A Reference & Page Number  
Year program started \_\_\_\_\_ or Year program scheduled to start \_\_\_\_\_

☐ Describes steps necessary to implement measure N/A Reference & Page Number

Table 14					
Actual	2001	2002	2003	2004	2005
# of commercial replacements					
# of industrial replacements					
# of institutional replacements					
actual expenditures - \$					
actual water savings - AFY					

Table 15					
Planned	2006	2007	2008	2009	2010
# of commercial replacements					
# of industrial replacements					
# of institutional replacements					
projected expenditures - \$					
projected water savings - AFY					

☐ Describe the methods, if any, used to evaluate the effectiveness of this demand management measure (10631 (f)(3)) N/A Reference & Page Number

☐ Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4)) N/A Reference & Page Number

**Provided an evaluation for this DMM if it is not implemented**

**(Section 10631 (g))**

- ☐ Evaluate legal authority (10631 (g)(4))
- ☐ Evaluate economic and non-economic factors (10631 (g)(1))
- ☐ Evaluate environmental, social, health factors (10631 (g)(1))
- ☐ Evaluate customer impact & technological factors (10631 (g)(1))

Table 16 - 10631 (g)(2)	
Cost Effectiveness Summary	
Total Costs	
Total Benefits	
Discount Rate	
Time Horizon	
Cost of Water	
Water Savings (AFY)	

☐ Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4))

☐ Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h))

**If Another Agency Implementing**

☐ If another Agency is implementing (10631 (g)(4))

Agency Name
N/A

**Wholesale Agency Programs (10631 (f)(1)(D))**

☒ Not a wholesale agency

**Implementation**

**(Section 10631 (f) & (h))**

☐ Describe demand management measure currently being implemented or scheduled for implementation (10631 (f) (1)(2)) N/A Reference & Page Number

Year program started \_\_\_\_\_ or Year program scheduled to start \_\_\_\_\_  
# of suppliers you serve \_\_\_\_\_

☐ Describes steps necessary to implement measure N/A Reference & Page Number

Table J1	Number of agencies assisted				
program activities	2001	2002	2003	2004	2005
Water Surveys					

Residential Retrofit					
System Audits					
Metering-Commodity Rates					
Landscape Programs					
Washing Machines					
Public Information					
School Education					
CII WC					
CII ULF					
Water Waste					
Pricing					
WC Coordinator					
Water Waste					
UFLT Replacement					
actual expenditures - \$					

Table J2	Number of agencies to be assisted				
program activities	2006	2007	2008	2009	2010
Water Surveys					
Residential Retrofit					
System Audits					
Metering-Commodity Rates					
Landscape Programs					
Washing Machines					
Public Information					
School Education					
CII WC					
CII ULF					
Water Waste					
Pricing					
WC Coordinator					
Water Waste					
UFLT Replacement					
projected expenditures - \$					

- ☐ Describe the methods, if any, used to evaluate the effectiveness of this demand management measure (10631 (f)(3)) N/A Reference & Page Number
- ☐ Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand (10631(f)(4)) N/A Reference & Page Number

**Provided an evaluation for this DMM if it is not implemented**

(Section 10631 (g))

- ☐ Evaluate legal authority (10631 (g)(4))
- ☐ Evaluate economic and non-economic factors (10631 (g)(1))
- ☐ Evaluate environmental, social, health factors (10631 (g)(1))
- ☐ Evaluate customer impact & technological factors (10631 (g)(1))

Table J3 - 10631 (g)(2)	
Cost Effectiveness Summary	
Total Costs	
Total Benefits	
Discount Rate	
Time Horizon	
Cost of Water	
Water Savings (AFY)	

- ☐ Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4))
- ☐ Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h))

**If Another Agency Implementing**

- ☐ If another Agency is implementing (10631 (g)(4))

Agency Name
N/A

# Conservation Pricing (10631 (g)(1)(k))

## Implementation

(Section 10631 (f) & (h))

☒ Describe demand management measure currently being implemented or scheduled for implementation (10631 (f) (1)(2))

SECT 8.11

Reference & Page Number

Year program started 1992 or Year program scheduled to start

☒ Agency provides sewer service

☒ Describes steps necessary to implement measure

SECT 8.11

Reference & Page Number

Table K1			
RETAILERS			
<b>Residential</b>			
Water Rate Structure	TWO TIER	Sewer Rate Structure	FLAT RATE
Year rate effective	1992	Year rate effective	1992
<b>Commercial</b>			
Water Rate Structure	TWO TIER	Sewer Rate Structure	UNIFORM RATE
Year rate effective	1992	Year rate effective	1992
<b>Industrial</b>			
Water Rate Structure	pop-up list	Sewer Rate Structure	pop-up list
Year rate effective		Year rate effective	
<b>Institutional/Government</b>			
Water Rate Structure	pop-up list	Sewer Rate Structure	pop-up list
Year rate effective		Year rate effective	
<b>Irrigation</b>			
Water Rate Structure	pop-up list		
Year rate effective			
<b>Other</b>			
Water Rate Structure	pop-up list	Sewer Rate Structure	pop-up list
Year rate effective		Year rate effective	
Table K2			
WHOLESALEERS			
Water Rate Structure	pop-up list		
Year rate effective			

## Provided an evaluation for this DMM if it is not implemented

(Section 10631 (g))

- ☐ Evaluate legal authority (10631 (g)(4))
- ☐ Evaluate economic and non-economic factors (10631 (g)(1))
- ☐ Evaluate environmental, social, health factors (10631 (g)(1))
- ☐ Evaluate customer impact & technological factors (10631 (g)(1))

Table K3 - 10631 (g)(2)	
Cost Effectiveness Summary	
Total Costs	
Total Benefits	
Discount Rate	
Time Horizon	
Cost of Water	
Water Savings (AFY)	

- ☐ Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4))
- ☐ Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h))

## If Another Agency Implementing

☐ If another Agency is implementing (10631 (g)(4))

Agency Name
N/A

# Water Conservation Coordinator (10631 (g)(1)(l))

## Implementation

(Section 10631 (f) & (h))

5/11/2005



☒ Describe demand management measure currently being implemented or scheduled for implementation (10631 (f) (1)(2)) SECT 8.12 Reference & Page Number

Year program started \_\_\_\_\_ or Year program scheduled to start \_\_\_\_\_

☒ Describes steps necessary to implement measure N/A Reference & Page Number

Table L1					
Actual	2001	2002	2003	2004	2005
# of full-time positions					
# of full/part-time staff	1	1	1	2	2
actual expenditures - \$					

Table L2					
Planned	2006	2007	2008	2009	2010
# of full-time positions					
# of full/part-time staff					
projected expenditures - \$					

Provided an evaluation for this DMM if it is not implemented

(Section 10631 (g))

- ☐ Evaluate legal authority (10631 (g)(4))
- ☐ Evaluate economic and non-economic factors (10631 (g)(1))
- ☐ Evaluate environmental, social, health factors (10631 (g)(1))
- ☐ Evaluate customer impact & technological factors (10631 (g)(1))

Table L3 - 10631 (g)(2)	
Cost Effectiveness Summary	
Total Costs	
Total Benefits	
Discount Rate	
Time Horizon	
Cost of Water	
Water Savings (AFY)	

- ☐ Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4))
- ☐ Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h))

If Another Agency Implementing

- ☐ If another Agency is implementing (10631 (g)(4))

Agency Name
N/A

Implementation

(Section 10631 (f) & (h))

☒ Describe demand management measure currently being implemented or scheduled for implementation (10631 (f) (1)(2)) SECT 8.13 Reference & Page Number

Year program started 1991 or Year program scheduled to start \_\_\_\_\_

☒ Describes steps necessary to implement measure SECT 8.13 Reference & Page Number

Table M1					
Actual	2001	2002	2003	2004	2005
waste ordinance in effect	X	X	X	X	X
# of on-site visits					
water softener ordinance					
actual expenditures - \$					

Table M2					
Planned	2006	2007	2008	2009	2010
waste ordinance in effect	X	X	X	X	X
# of on-site visits					
water softener ordinance					
projected expenditures - \$					

☐ Describe the methods, if any, used to evaluate the effectiveness of this demand management measure  
(10631 (f) (3)) N/A Reference & Page Number

**Provided an evaluation for this DMM if it is not implemented**

(Section 10631 (g))

- ☐ Evaluate legal authority  
(10631 (g)(4))
- ☐ Evaluate economic and non-economic factors  
(10631 (g)(1))
- ☐ Evaluate environmental, social, health factors  
(10631 (g)(1))
- ☐ Evaluate customer impact & technological factors  
(10631 (g)(1))

Table M3 - 10631 (g)(2)	
Cost Effectiveness Summary	
Total Costs	
Total Benefits	
Discount Rate	
Time Horizon	
Cost of Water	
Water Savings (AFY)	

- ☐ Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4))
- ☐ Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h))

**If Another Agency Implementing**

- ☐ If another Agency is implementing (10631 (g)(4))

Agency Name
N/A

**Residential Ultra-Low-Flush Toilet Replacement Program (10631 (f)(1)(D))**

**Implementation**

(Section 10631 (f) & (h))

- ☒ Describe demand management measure currently being implemented or scheduled for implementation (10631 (f) (1)(2)) SECT 8.14 Reference & Page Number

Year program started 1994 or Year program scheduled to start \_\_\_\_\_  
# of SF pre-1992 accounts \_\_\_\_\_

- ☒ Describes steps necessary to implement measure SECT 8.14 Reference & Page Number

Table N1	Single-Family				
Actual	2001	2002	2003	2004	2005
# of ULF rebates	95	80	139	29	
# of ULF direct installs					
# of ULF CBO installs					
actual expenditures - \$	\$7,125	\$6,000	\$10,425	\$2,175	
actual water savings - AFY	\$5	\$4	\$8	\$2	

Table N2	Single-Family				
Planned	2006	2007	2008	2009	2010
# of ULF rebates					
# of ULF direct installs					
# of ULF CBO installs					
projected expenditures - \$					
projected water savings - AFY					

# of MF pre-1992 units \_\_\_\_\_

Table N3	Multi-Family				
Actual	2001	2002	2003	2004	2005
# of ULF rebates					
# of ULF direct installs					
# of ULF CBO installs					
actual expenditures - \$					
actual water savings - AFY					

Table N4	Multi-Family				
Planned	2006	2007	2008	2009	2010
# of ULF rebates					
# of ULF direct installs					
# of ULF CBO installs					
projected expenditures - \$					
projected water savings - AFY					

- ☐ Is a toilet retrofit on resale ordinance in effect for your service area?
- ☒ Provide estimates, if available, of existing conservation savings on water use and the effect of such savings on the supplier's ability to further reduce demand  
SECT 8.2 Reference & Page Number  
 (10631 (f)(4))

**Provided an evaluation for this DMM if it is not implemented**

(Section 10631 (g))

- ☐ Evaluate legal authority  
 (10631 (g)(4))
- ☐ Evaluate economic and non-economic factors  
 (10631 (g)(1))
- ☐ Evaluate environmental, social, health factors  
 (10631 (g)(1))
- ☐ Evaluate customer impact & technological factors  
 (10631 (g)(1))

Table N5 - 10631 (g)(2)	
Cost Effectiveness Summary	
Total Costs	
Total Benefits	
Discount Rate	
Time Horizon	
Cost of Water	
Water Savings (AFY)	

- ☐ Describe efforts to work with other relevant agencies to ensure implementation of the measure and to share the cost of implementation (10631 (g)(4))
- ☐ Describe funding available to implement any planned water supply project that would provide water at a higher unit cost (10631 (g)(3) & (h))

**If Another Agency Implementing**

- ☐ If another Agency is implementing (10631 (g)(4))

Agency Name
N/A

(Water Code §10620 (d)(1)(2) - 10645, the 2005 Urban Water Management Plan Review for Completeness Form is found on Sheet 1

## **1.0 INTRODUCTION**

### **1.1 Purpose**

In accordance with California Water Code Division 6, Part 2.6 Urban Water Management Planning, every urban water supplier in California providing water for municipal purposes either directly or indirectly to more than 3,000 customers, or supplying more than 3,000 acre-feet of water annually, is required to prepare and adopt an Urban Water Management Plan (UWMP). The adopted UWMP must then be updated at least once every five years on or before December 31, in years ending in five and zero. An urban water supplier that does not prepare, adopt and submit its UWMP to the California Department of Water Resources (DWR) is ineligible to receive drought assistance from the State of California.

In 2004, the Dublin San Ramon Services District (DSRSD) supplied 10,978 acre-feet annually (afa) of potable water and 737 afa of recycled water to approximately 12,300 customers<sup>1</sup> in the City of Dublin in Alameda County, California and the Dougherty Valley area of Contra Costa County, California, and is therefore subject to the requirements of the Urban Water Management Planning Act. DSRSD prepared its first UWMP in 1996; the UWMP was then updated in 2000. Prior to 1996, DSRSD participated in an area-wide Plan prepared by Zone 7 of the Alameda County Flood Control and Water Conservation District (Zone 7).

### **1.2 Plan Contents and Organization**

The Urban Water Management Planning Act (UWMP Act), established in 1983 by Assembly Bill 797 and amended numerous times since then (most recently in 2004 by Senate Bill 318), establishes the requirements for a UWMP. The latest version of the UWMP Act is provided in Appendix A. This updated UWMP for DSRSD has been prepared in accordance with those requirements and contains information on the following:

- Plan development and public participation;
- DSRSD's service area and population;
- Available water supply sources and associated reliability;
- Past, present and projected water demands;
- DSRSD water demand management measures;
- DSRSD water shortage contingency plan; and
- Potential for use of recycled water within DSRSD's service area.

Appendices to this UWMP provide a copy of the UWMP Act (Appendix A), the resolution to adopt this updated UWMP (Appendix B), DSRSD/Zone 7 water supply contracts and agreements (Appendix C), and copies of DSRSD's water conservation and drought management ordinances (Appendix D).

Also, since DSRSD's last UWMP was prepared, and in response to the November 2, 1999 "Agreement to Settle Water Litigation By and Between Zone 7 Water Agency, Dublin San Ramon

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<sup>1</sup> Source: DSRSD Customer Service Department, Number of Water Meters as of December 31, 2004.

Services District, et.al.” a Final Revised Water Service Analysis for Eastern Dublin (Eastern Dublin Final WSA) was completed in December 2001. As described in Section 3.3 of this UWMP, the Eastern Dublin Final WSA contains the basis for DSRSD’s project-specific analysis and the evaluation of impacts associated with DSRSD’s provision of water service to the entire Eastern Dublin area within DSRSD’s water service sphere of influence. In addition, it contains current assessments of factors potentially affecting water supply reliability and delivered water quality impacts resulting from future service to Eastern Dublin. A CDROM copy of the Eastern Dublin Final WSA is incorporated into this UWMP 2005 Update as Appendix E.

Appendix F of this UWMP contains DSRSD’s 2003/04 Best Management Practices Report Filing to the California Urban Water Conservation Council (CUWCC). Discussion of DSRSD’s membership in CUWCC and implementation of Best Management Practices is provided in Sections 3.1 and 8.0 of this UWMP.

### **1.3 Glossary of Terms and Acronyms**

The following terms and acronyms have been used throughout this UWMP 2005 Update to improve document clarity and readability.

ADWF	Average dry weather flow
Af	Acre-feet
AFA, af/yr	Acre-feet per year
BBID	Byron Bethany Irrigation District
BMPs	Best Management Practices
CEQA	California Environmental Quality Act
CCCSD	Contra Costa County Sanitary District
CCF	One hundred cubic feet
Chain-of-Lakes	A series of gravel quarry pits to be abandoned in the future and converted into nine lakes (Lakes A through I) linked in series and used by Zone 7 for seasonal water storage and conveyance
CIMIS	California Irrigation Management Information System
CUWCC	California Urban Water Conservation Council
CWS	California Water Service Company
DERWA	DSRSD/EBMUD Recycled Water Authority
DMMs	Demand Management Measures; fourteen water conservation measures included in the UWMP Act
DSRSD	Dublin San Ramon Services District
DWR	California Department of Water Resources

Eastern Dublin Final WSA	Final Revised Water Service Analysis for Eastern Dublin; completed in December 2001 in response to the November 2, 1999 "Agreement to Settle Water Litigation By and Between Zone 7 Water Agency, Dublin San Ramon Services District, et.al."
EBDA	East Bay Dischargers Authority
EBMUD	East Bay Municipal Utilities District
Eto	Evapotranspiration
FCI	Dublin Federal Correctional Institution
Gpcd	Gallons per capita per day
IQ	Independent quota; refers to independent groundwater pumping quota for each of the Valley's water retailers, including DSRSD; this is the quantity of water that DSRSD is entitled to extract from the Main Basin without paying a recharge fee to Zone 7
KCWA	Kern County Water Agency
LAVWMA	Livermore Amador Valley Water Management Agency
M&I	Municipal and Industrial
Main Basin	The main portion of the Livermore Valley Groundwater Basin, located essentially within the valley floor sections of the Castle, Bernal, Amador and Mocho II Subbasins (as defined in DWR Bulletin 118), from which Zone 7 and retailer groundwater supplies are pumped
MCLs	Maximum Contaminant Levels
MCLGs	Maximum Contaminant Level Goals
MFUV	Microfiltration Ultraviolet Disinfection
Mgd	Million gallons per day
MOU	Memorandum of Understanding
MWD	Metropolitan Water District
Natural Yield	The yield of the groundwater basin as a result of natural inflow and recharge; does not include artificial recharge
PHGs	Public Health Goals
Pumpback	A term used to define the quantity of water which can be "withdrawn" from non-local storage (i.e. Semitropic Water Storage District)
RWTF	Recycled Water Treatment Facilities; includes MFUV and SFUV facilities
SFTF	Sand Filtration Treatment Facility
SFUV	Sand Filtration Ultraviolet Disinfection
SRVRWP	San Ramon Valley Recycled Water Program
STWSD	Semitropic Water Storage District
SWP	State Water Project
SWRCB	State Water Resources Control Board

Unaccounted for water	Water which is used but not accounted for or billed; usually associated with metering inaccuracies and unmetered main flushing activities
UWMP	Urban Water Management Plan
UWMP Act	Urban Water Management Planning Act; enacted in 1983; establishes requirements for a UWMP
WYA	West Yost & Associates; preparer of this UWMP
Zone 7	Zone 7 of the Alameda County Flood Control and Water Conservation District; water wholesaler to DSRSD

## **2.0 PLAN PREPARATION, COORDINATION AND ADOPTION**

### **2.1 Plan Preparation**

On January 6, 2004, the DSRSD Board of Directors authorized West Yost & Associates (WYA) to prepare DSRSD's UWMP 2005 Update. The information contained herein is based on data obtained from DSRSD staff, data included in available water supply planning documents and review and update of data contained in DSRSD's 2000 UWMP.

### **2.2 Public Involvement**

It is DSRSD's policy to encourage public participation when adopting plans such as the Urban Water Management Plan. Therefore, DSRSD sought public input while developing this updated UWMP. The updated Draft UWMP was available for public review prior to the scheduled Public Hearing, which was held on May 3, 2005. During this review period, the Draft UWMP was available at DSRSD's office during normal business hours, distributed to interested parties (see Section 2.3 below), and made available at the City of Dublin and City of San Ramon public libraries. Notices for the Public Hearing were placed in a local newspaper (The Valley Times) and posted at DSRSD's office.

### **2.3 Other Agency Involvement**

DSRSD coordinates with Zone 7, the City of Dublin, Alameda County, and Contra Costa County to ensure that a safe and reliable water supply is delivered to its existing customers and that plans for serving future customers are implemented as efficiently as possible. To ensure that these agencies were informed on the current and future water supply issues facing DSRSD, copies of the updated Draft UWMP were provided to Zone 7, the City of Dublin, Alameda County and Contra Costa County for their review and comment. Their applicable comments were then incorporated into the final adopted UWMP. Following plan adoption, copies of this 2005 UWMP were provided to Zone 7, the City of Dublin, Alameda County and Contra Costa County in accordance with the requirements of the UWMP Act.

### **2.4 Plan Adoption**

The DSRSD Board of Directors adopted this updated UWMP on May 17, 2005 (see DSRSD Resolution in Appendix B). DSRSD will submit the updated UWMP to the Department of Water Resources within 30 days after its adoption, as required by Section 10644 of the UWMP Act. This updated UWMP contains information required by the UWMP Act, which is necessary to plan for the efficient use of urban water supplies within DSRSD's service area. Prior to its adoption, the updated UWMP was reviewed by DSRSD's Board of Directors and the public, and by Zone 7 and City of Dublin staff.



### **3.0 BACKGROUND**

#### **3.1 DSRSD History**

DSRSD was formed in 1953 under the Community Services District Act, Government Code Sections 61000-61802, and was originally known as the Parks Community Services District. The name was changed to Valley Community Services District in 1963. The initial water system was constructed by the Volk-McClain Company, which drilled wells for DSRSD along Dublin Boulevard. DSRSD originally supplied water to San Ramon until East Bay Municipal Utility District (EBMUD) took over water service in 1967.

As the need for additional sources of water became apparent, DSRSD first entered into an agreement with Zone 7 in 1963 to acquire additional treated water supplies. DSRSD's most recent contract with Zone 7 went into effect on August 23, 1994 and has a 30-year term (until 2024). A copy of the DSRSD/Zone 7 water supply contract is provided in Appendix C. Discussion of the terms of the supply contract is provided in Section 4.0 of this UWMP. Other water retailers served by Zone 7 include the California Water Service Company (Livermore District), the City of Livermore, and the City of Pleasanton.

Commercial and residential growth in the region since 1963 has required continuous increases in the capacity of Zone 7's treatment, pumping, storage, and distribution facilities. Additional growth is anticipated in the region and DSRSD, in cooperation with Zone 7, has acquired additional water supplies to provide for this growth. These supplies include additional water from Zone 7 (including a water entitlement transfer for Dougherty Valley), groundwater, and recycled water. Current and projected water supplies will be described in greater detail in Section 4.0 of this UWMP.

To reduce the demand for potable water, DSRSD has committed to participate in water conservation and recycling activities. DSRSD became a member of the California Urban Water Conservation Council (CUWCC) when its Board of Directors officially adopted the Memorandum of Understanding Regarding Urban Water Conservation in California on September 7, 1991. DSRSD is currently implementing the fourteen Best Management Practices (BMPs) outlined in that Memorandum of Understanding, which correspond to the fourteen Demand Management Measures (DMMs) outlined in the UWMP Act. Further discussion of these conservation efforts is provided in Section 8.0 of this UWMP.

In addition to encouraging water conservation, DSRSD promotes water recycling and is a member of the WaterReuse Association. In 1995 DSRSD and EBMUD, through a Joint Powers Agreement, formed the DSRSD-EBMUD Recycled Water Authority (DERWA). DERWA serves as a wholesaler to deliver recycled water to DSRSD and EBMUD, which in turn, will deliver the recycled water to their respective service areas. DERWA's mission is to provide a safe, reliable, and consistent supply of recycled water, and to maximize the amount of recycled water delivered. DSRSD has constructed recycled water treatment and distribution facilities and has begun to augment its water supply with recycled water for landscape irrigation at numerous sites in the City of Dublin and the Dougherty Valley area. As new areas are developed, recycled water treatment, storage and distribution facilities will be further expanded to serve these areas. Further discussion of DSRSD's recycled water efforts is provided in Section 10.0 of this UWMP.

### 3.2 Water Service Area, Connections and Population

DSRSD currently supplies potable water to approximately 12,300 residential, commercial, construction, and landscape irrigation customers<sup>2</sup> in the City of Dublin, California and the Dougherty Valley in San Ramon, California. DSRSD also supplies recycled water to the City of Dublin (east of Highway 680) and Dougherty Valley.

As shown in Table 3-1, DSRSD's potable water customers are primarily residential, with about 88 percent of DSRSD's customers being residential; about 4 percent being commercial; and 8 percent being irrigation, firelines or construction.

**Table 3-1. DSRSD Customer Types<sup>(a)</sup>**

Customer Type	Number of Meters	Percent of Total Meters
Residential	10,839	88.2%
Commercial	505	4.1%
Construction	167	1.4%
Irrigation	406	3.3%
Firelines	371	3.0%
Total	12,288	100.0%

<sup>(a)</sup> Source: DSRSD Customer Service Department, Number of Meters as of December 31, 2004.

In addition to water service, DSRSD provides wastewater collection and treatment services for the City of Dublin, the southern portion of San Ramon, and wastewater treatment under contract to the City of Pleasanton. DSRSD owns and operates a wastewater treatment plant in the City of Pleasanton that has a capacity of 17 million gallons per day (mgd).

DSRSD's service area is located in the Livermore-Amador Valley in close proximity to the Interstate 580/680 Interchange. As shown on Figure 3-1, DSRSD's current service area includes the original service area in Dublin as well as approved development in Eastern Dublin, Western Dublin, and Dougherty Valley. DSRSD's service area also includes the Camp Parks Reserve Forces Training Area, which officially became part of the water system in 1999, and the Dublin Federal Correctional Institution (FCI) and Alameda County's Santa Rita Jail. The climate of the area is best described as Mediterranean, characterized by hot dry summers and cool winters. Precipitation in the area averages around 15 inches per year as shown in Table 3-2 which shows the average monthly temperature and rainfall for Livermore, California which is located approximately 10 miles to the east of DSRSD's service area. Average evapotranspiration (Et<sub>a</sub>) is based on data from a monitoring station in Pleasanton, California, which is located just south of DSRSD's service area.

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<sup>2</sup> Source: DSRSD Website [www.dsrds.com](http://www.dsrds.com) September 2004

**Table 3-2. Climate Data**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Average Et <sub>o</sub> , inches <sup>(a)</sup>	0.82	1.47	2.92	4.40	5.57	6.66	7.40	6.35	4.73	3.34	1.54	1.01	46.21
Average Temperature, °F <sup>(b)</sup>	47.2	51.1	53.8	57.7	62.8	68.3	72.0	71.9	69.6	63.2	53.2	47.0	59.8
Average Daily Maximum Temperature, °F <sup>(b)</sup>	56.9	61.8	65.3	71.2	77.0	84.0	89.1	88.7	85.9	77.9	64.8	57.0	73.3
Average Rainfall, inches <sup>(b)</sup>	2.99	2.77	2.47	0.96	0.43	0.09	0.03	0.08	0.24	0.84	1.88	2.04	14.82

(a) Source: CIMIS Website: [www.cimis.water.ca.gov](http://www.cimis.water.ca.gov), Station 191 Pleasanton, Monthly Average Et<sub>o</sub> Report, January 2005.

(b) Source: National Climatic Data Center, Climatology of the United States, Livermore, California Station, based on 1971-2000 data.

Dublin has grown from primarily a rural crossroads community in the 1950's and 1960's to a principally urban community, with a burgeoning commercial area. Like other East Bay and Tri-Valley communities, growth over that last 30 years has been particularly strong. As shown on Figure 3-2, since the early 1980's the population in DSRSD's service area has roughly tripled. It is anticipated that growth in DSRSD's service area will continue to be strong. Population projections for DSRSD's service area are summarized in Table 3-3 and shown on Figure 3-2.

**Table 3-3. DSRSD Water Service Area Population Projections<sup>(a)</sup>**

Service Area	Year						
	2004 (Current)	2005	2010	2015	2020	2025	2030
City of Dublin	38,350 <sup>(b)</sup>	39,438	44,879	50,320	56,117	56,117	56,117
Dougherty Valley	6,237	8,316	18,711	22,500	22,500	22,500	22,500
Total Service Area	44,587	47,754	63,590	72,820	78,617	78,617	78,617

(a) Estimated based on uniform growth and projected buildout populations and buildout years for City of Dublin (Source: City of Dublin General Plan; buildout in 2020) and Dougherty Valley (Source: Dougherty Valley Specific Plan; Windemere buildout in 2010 and Shapell buildout in 2015). Estimates include infill development.

(b) Source: State of California, Department of Finance, E-4 Population Estimates for Cities, Counties and State, 2001-2004, with 2000 DRU Benchmark, Sacramento, California, May 2004.

As shown in Table 3-3 and on Figure 3-2, buildout of the City of Dublin is projected to occur in 2020, while full buildout of the Dougherty Valley area is projected to occur in 2015 (Windemere portion to buildout in 2010 and Shapell portion to buildout in 2015).

### 3.3 Dougherty Valley Settlement Agreement

On November 2, 1999, DSRSD entered into an “Agreement to Settle Water Litigation By and Between Zone 7 Water Agency, Dublin San Ramon Services District, et. al.” (Settlement Agreement)<sup>3</sup>. The Settlement Agreement requires water service analyses to be prepared by DSRSD for use in evaluating requests for extension of water service to specified areas in Eastern and Western Dublin. The Settlement Agreement provides standards for these analyses to determine whether DSRSD would be able to provide water service to these areas without “significantly and adversely affecting the reliability of service or quality of water provided to DSRSD’s then-existing customers.”

On December 21, 1999, DSRSD and the City of Dublin entered into a “Memorandum of Understanding Regarding Cooperative Implementation of the Agreement to Settle Water Litigation” (MOU). Pursuant to the MOU, DSRSD agreed to prepare a Programmatic Water Service Analysis to provide a basis for the preparation of future project-specific water service analyses required under the Settlement Agreement for annexations in Eastern Dublin.

The Final Revised Water Service Analysis for Eastern Dublin (“Eastern Dublin Final WSA”) was completed in December of 2001. The Eastern Dublin Final WSA was prepared in compliance with a mediator’s order (following a mediation on the adequacy of the analysis contained in the document); the December 21, 1999 MOU between the City of Dublin and DSRSD; and the Settlement Agreement. It contains the basis for DSRSD’s project-specific analysis and the evaluation of impacts associated with DSRSD’s provision of water service to the entire Eastern Dublin area within DSRSD’s water service sphere of influence. In addition, it contains current assessments of factors potentially affecting water supply reliability and delivered water quality impacts resulting from future service to Eastern Dublin. The Eastern Dublin Final WSA supports the requirements of the Settlement Agreement, MOU, and the mediator’s order to discuss DSRSD service to future customers in the context of regional and state water supply practices including consideration of industry practices regarding data reliability and the precision of projections as accurate indicators of future conditions.

On March 18, 2002, Citizens for Balanced Growth filed a Motion to Enforce Judgment and Settlement Agreement as an appeal of the Mediator’s Order upholding the adequacy of the Eastern Dublin Final WSA. On April 12, 2002, DSRSD, the City of Livermore, and Zone 7 filed oppositions to the Citizens for Balanced Growth motion. On April 18, 2002, Windemere Ranch Partners filed a joinder to DSRSD’s oppositions. In their oppositions, DSRSD and Zone 7 asked for an award of costs and fees, including attorney’s fees, pursuant to the terms of the Settlement Agreement. In May of 2002, the parties agreed to a Stipulation and Order Denying Motion to Enforce, which established that, in light of the revisions made to the Eastern Dublin Final WSA, DSRSD had complied with the terms of the Settlement Agreement in its issuance of the Eastern Dublin Final WSA and that the Eastern Dublin Final WSA met the standards contained in the Settlement Agreement.

A CDROM copy of the Eastern Dublin Final WSA is included in this UWMP Update in Appendix E.

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<sup>3</sup> November 2, 1999, by and between DSRSD, Zone 7 Water Agency, Alameda Flood Control and Water Conservation District, City of Livermore, Citizens for Balanced Growth, Windemere Ranch Partners and Shapell Industries, Inc.

### **3.4 Overview of DSRSD's Water System**

#### **3.4.1 Water Supply**

Zone 7 supplies treated water to DSRSD. Until 1980, a portion of DSRSD's water came from DSRSD-owned wells; however, these wells have since been abandoned. Zone 7 currently provides 100 percent of DSRSD's potable water. Water enters DSRSD's distribution system from four turnouts from the Zone 7 transmission system.

The original turnout, No. 1, is located at the intersection of Dougherty Road and the abandoned Southern Pacific Railroad right-of-way. Turnout No. 2 was added in 1985, at the same time the Zone 7-owned Dougherty Reservoir was constructed. Turnout No. 2 is located at the intersection of Amador Valley Boulevard and Stagecoach Road. Turnout No. 3 (Camp Parks Turnout) is in the vicinity of Arnold Drive and Altamirana Road, and is equipped with a pressure reducing valve which opens only during low pressure emergency events. Turnout No. 4 is the former Santa Rita turnout in Eastern Dublin. A future Turnout No. 5 is planned at Fallon Road.

Turnout Nos. 1, 2 and 4 are equipped with fluoridation facilities, which fluoridate water delivered from Zone 7 prior to entering DSRSD's system. Turnout No. 3 is not equipped with fluoridation facilities as it is only used during emergency events. The locations of these turnouts are shown on Figure 3-3.

Recycled water is produced at DSRSD's wastewater treatment plant at the Recycled Water Treatment Facilities (RWTF). The RWTF produces recycled water that meets the California Title 22 requirements for unrestricted reuse (see Section 10.0 for additional discussion).

#### **3.4.2 Water Distribution**

The original DSRSD potable water distribution system in Central Dublin consists of four pressure zones. Expansion of this distribution system is required for the new development areas in Eastern Dublin, Western Dublin, and Dougherty Valley. Additional pressure zones with different service elevations are planned and will be added as needed to serve these approved development areas. Recycled water pipelines are being installed throughout the service area to serve existing and future users. Some of these facilities have already been constructed in Eastern Dublin and Dougherty Valley. The entire distribution system currently contains approximately 185 miles of pipelines (169 miles of potable water pipelines and 16 miles of recycled water pipelines)<sup>4</sup>. Major potable water infrastructure is shown on Figure 3-3. Recycled water infrastructure is shown on Figure 3-4.

#### **3.4.3 Emergency Interties**

DSRSD currently has four pipeline interties, two with EBMUD and two with the City of Pleasanton, for rapid emergency response. The locations of these emergency interties are shown on Figure 3-3. The interties are strictly for emergency conditions, such as a major pipeline break, supply contamination, or interruption of deliveries due to earthquake, flood, or other disaster. These connections would allow both agencies participating in the intertie to obtain water from the other agency during an emergency.

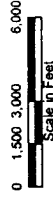
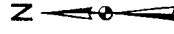
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<sup>4</sup> Source: DSRSD Website [www.dsrds.com](http://www.dsrds.com) September 2004.





**FIGURE 3-1**

DSRSD  
Urban Water Management  
Plan Update  
May 2005

**POTABLE WATER  
SERVICE AREA**



**LEGEND:**

-  Water Service Area
-  Interstate Highway
-  Sphere of Influence
-  County Line

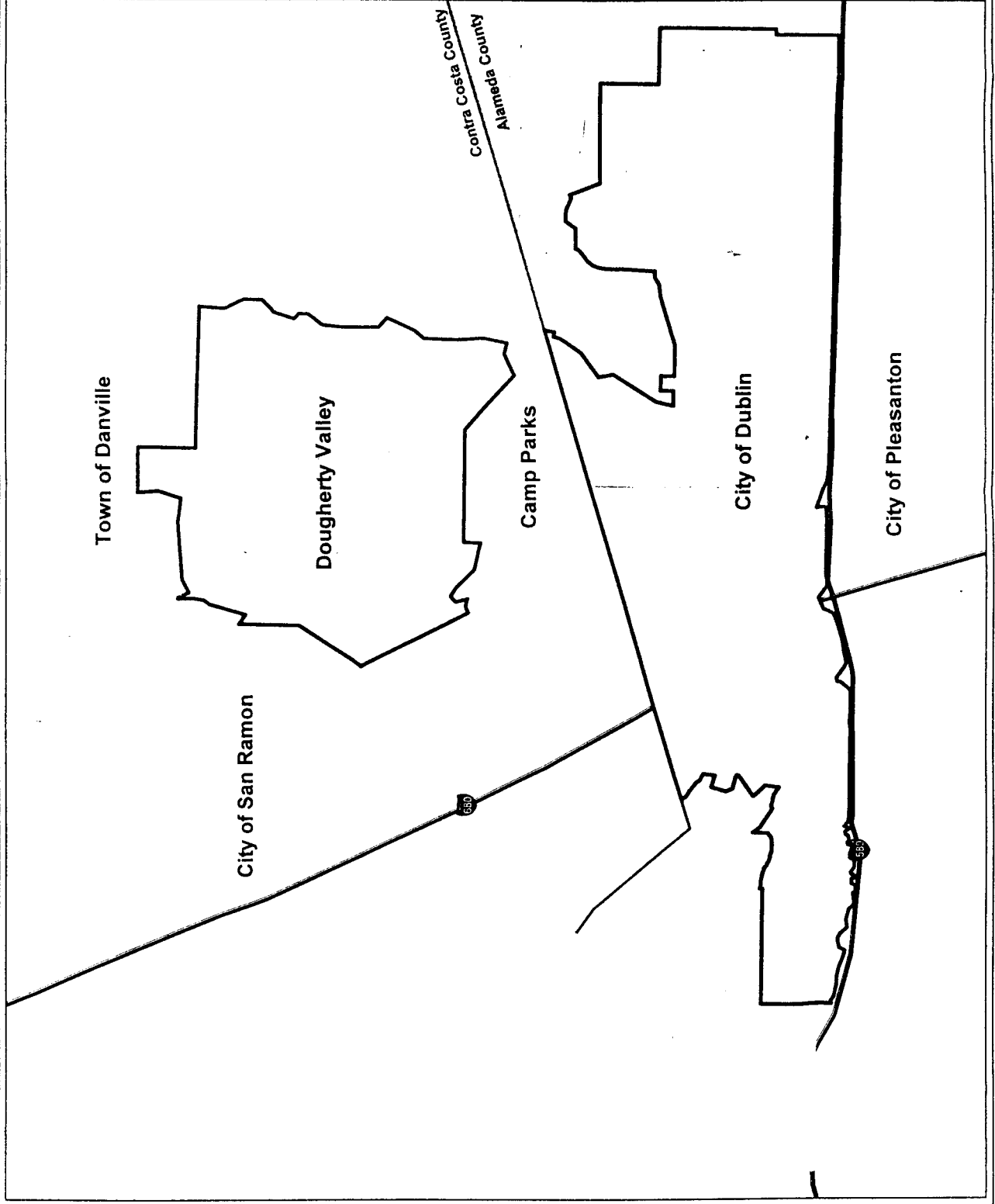
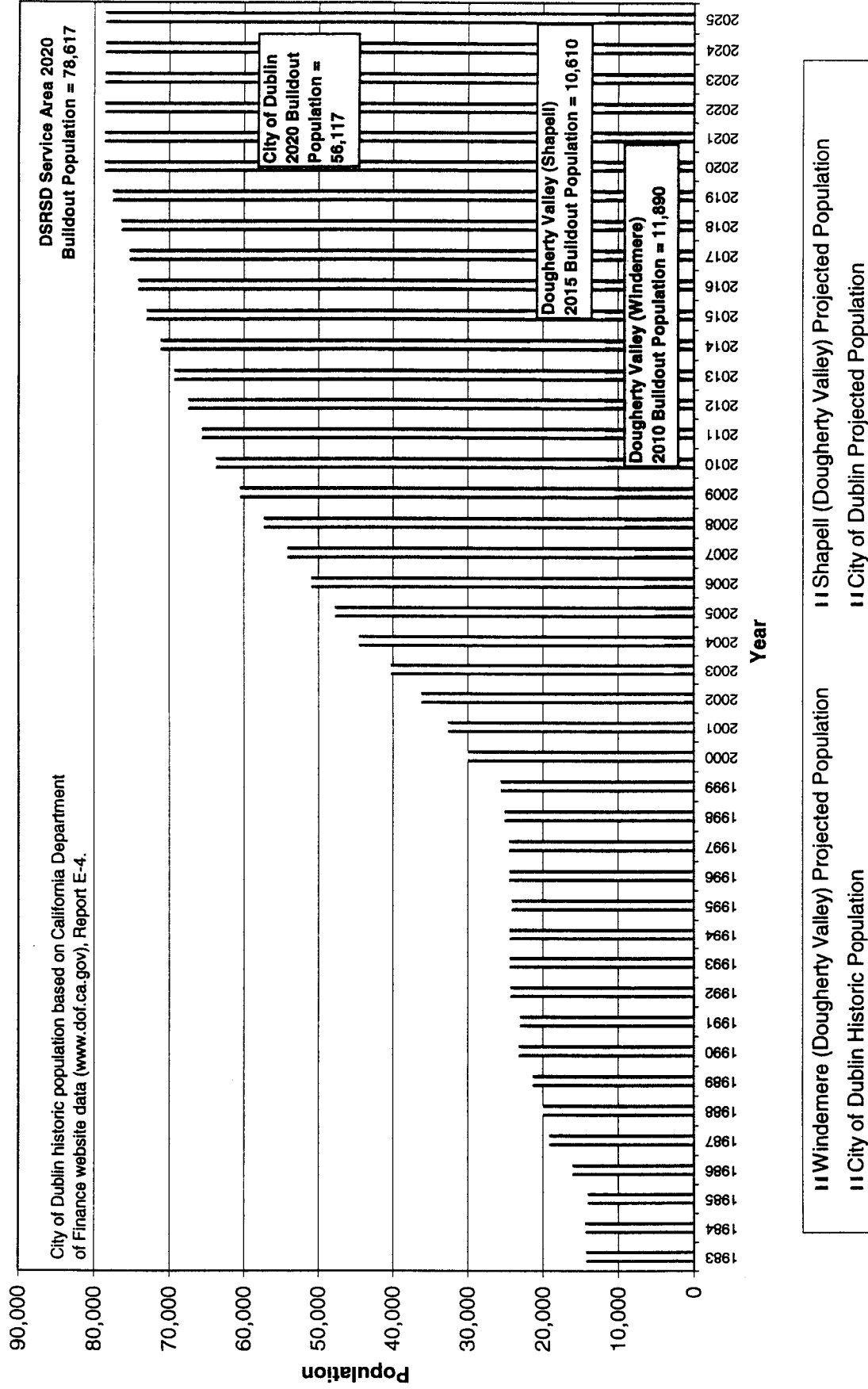


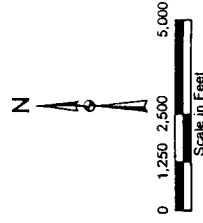
Figure 3-2. DSRSD Water Service Area Population



**FIGURE 3-3**

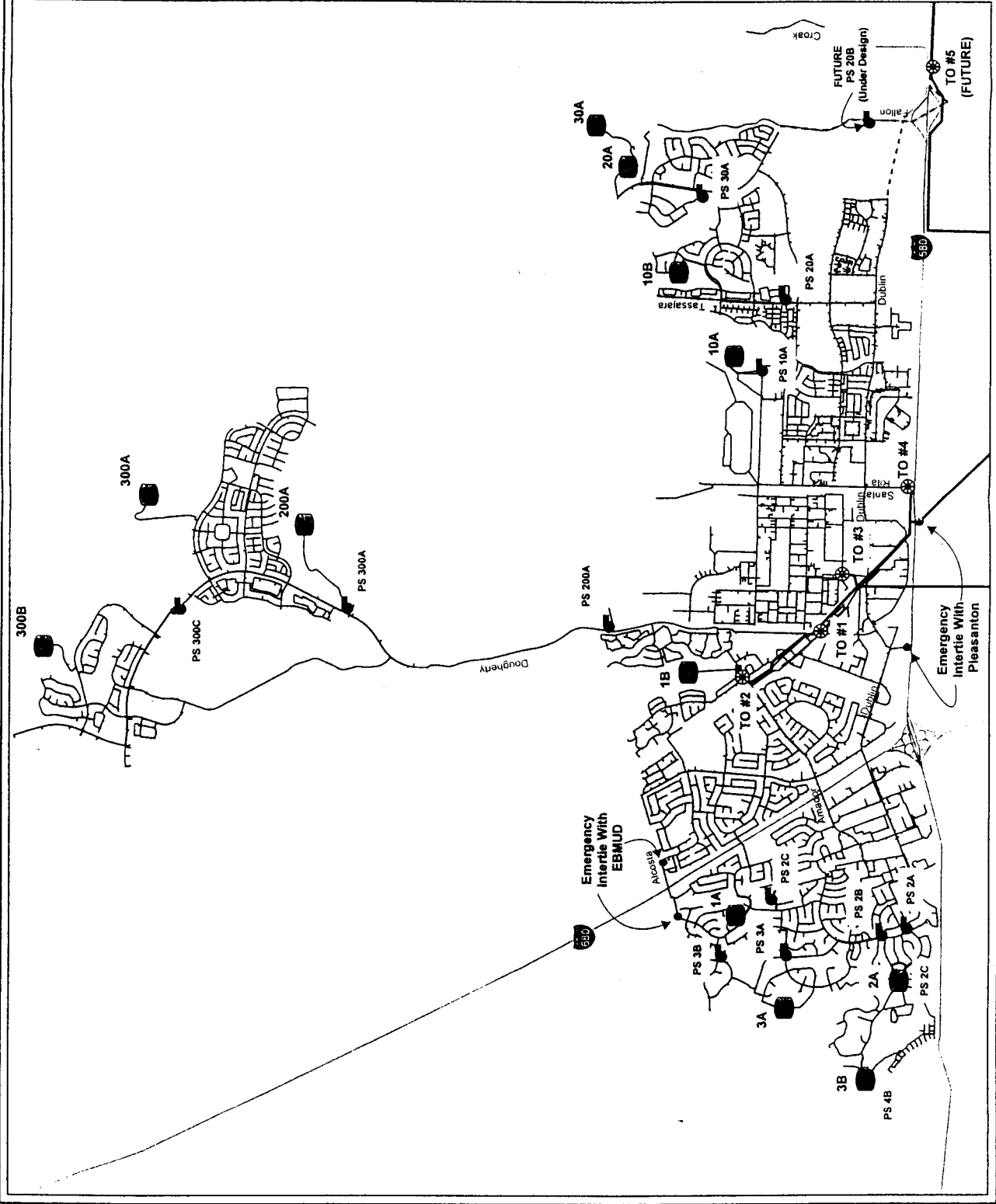
DSRSD  
Urban Water Management  
Plan Update  
May 2005

**EXISTING POTABLE  
WATER SYSTEM**



**LEGEND:**

- Turnout
- Potable Pump Station
- Emergency Intertie
- Potable Reservoir
- Zone 7 Conveyance Pipeline
- Potable Distribution Pipeline
- Future Pipeline (Currently Under Design)
- Major Streets/Hwys

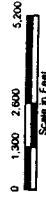
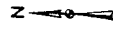




**FIGURE 3-4**

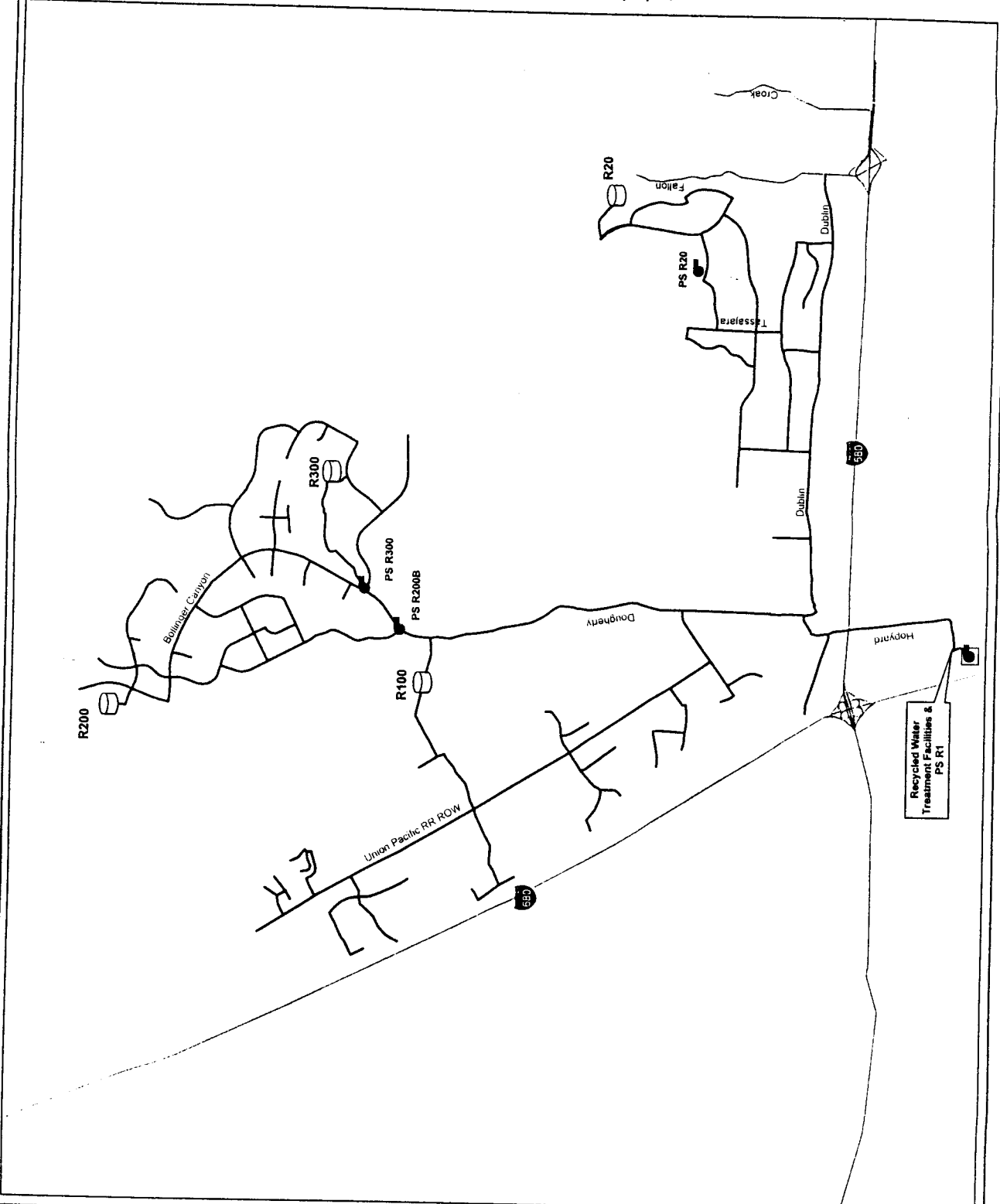
DSRSD  
Urban Water Management  
Plan Update  
May 2005

**EXISTING  
RECYCLED WATER  
SYSTEM**



**LEGEND:**

- Recycled Water Pump Station
- Recycled Water Tank
- Recycled Water Treatment Facilities
- DSRSD Pipeline
- EBMUD Pipeline
- Major Streets/Hwys



WEST  
Piedmont  
COUNCIL OF GOVERNMENTS

## 4.0 EXISTING WATER SUPPLY SOURCES

### 4.1 DSRSD Water Supply Contract with Zone 7

#### 4.1.1 Overview

Presently, the only source of potable water to DSRSD is from Zone 7. Zone 7 is a multi-purpose agency that oversees water-related issues in the Livermore-Amador Valley. Zone 7 is a State Water Project contractor that wholesales treated water to four retail water agencies (DSRSD, City of Livermore, City of Pleasanton and California Water Service Company-Livermore), retails non-potable water supplies for irrigated agricultural use, provides and maintains flood control facilities, and manages groundwater and surface water supplies in its service area.

#### 4.1.2 Water Supply Contract Provisions

The current contract between Zone 7 and DSRSD for a Municipal and Industrial Water Supply was entered into on August 23, 1994. The contract has a 30-year term and is intended to ensure an equitable, reliable, and high quality water service for DSRSD's customers. It improved the water supply for existing DSRSD customers and set the stage upon which DSRSD would be able to provide service to future customers. Some of the key provisions of the contract include the following:

- **Service Area:** The contract provides that it is DSRSD's sole discretion to expand its service area. However, Zone 7 water cannot be used outside of the Zone 7 territory unless Zone 7 finds that providing water to such areas is in the best interest of Zone 7.
- **Water Supply:** The contract provides that DSRSD shall purchase from Zone 7 all water required by DSRSD for use within DSRSD's service area, except that DSRSD may extract groundwater per the contract provisions or obtain water from "Other Sources" as defined in the contract<sup>5</sup>.
- **Water Quality:** The contract provides that Zone 7 will endeavor to provide water that is aesthetically acceptable to all retailers and that Zone 7 will blend the different sources of water available to it within its operational capabilities so as to provide water of approximately equal quality to all customers.
- **Groundwater Pumping:** DSRSD's Groundwater Pumping Quota was maintained at 645 afa of withdrawals from the Main Basin. Withdrawals from the fringe basin are unlimited and can be used at DSRSD's discretion.
- **Carryover of Pumping Quota:** The contract provides for a limited carryover of unused pumping quota from one year to another.

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<sup>5</sup> Water from "Other Sources" includes: a) Water received for fire flow or fire storage requirements or other emergency purposes; b) Water necessary to meet DSRSD's treated water needs as a result of Zone 7's non-compliance with State and Federal drinking water requirements; c) Water necessary to meet DSRSD's requirements should Zone 7 be unable to deliver the quantity of treated water necessary to satisfy the requirements of DSRSD; d) Zone 7 is able to meet DSRSD's water delivery request, and DSRSD has paid Zone 7 for obligated fixed costs of Zone 7 associated with the quantity of water DSRSD will obtain from Other Sources; e) Groundwater extracted within Zone 7's boundary, but outside the Main Basin, provided said extraction does not cause an adverse impact on the Main Basin; f) The source water is recycled water from DSRSD's or another contractors' treated wastewater.

- **Transfer of Pumping Quota:** The contract provides that the four retailers served by Zone 7 can voluntarily transfer their pumping quotas between or among themselves.
- **Recycled Water:** The contract provides that recycled water is considered to be an "Other Sources" water that DSRSD can use at will.
- **Delivery Schedule:** The contract provides that DSRSD shall submit in writing to Zone 7 a preliminary water delivery schedule indicating the anticipated quantity of treated water required by DSRSD during each month of the succeeding five calendar years and the anticipated peak day treated demand from Zone 7 for each such year. Zone 7 shall review such schedule, and after consultation with DSRSD, shall approve such schedule in a timely manner or make revisions as necessary to make such deliveries.

In February 2000, the contract was amended to expand DSRSD's service area to include the Dougherty Valley area and special provisions were added for the supply of water to the Dougherty Valley area.

A copy of the water supply contract and amendment is provided in Appendix C of this UWMP.

#### 4.1.3 Zone 7 Water Supply Sources

Zone 7 uses a combination of water supplies and water storage facilities to meet its four retailers' water demands. These include the following:

- Imported surface water from the State Water Project (SWP);
- Imported surface water transferred from the Bryon Bethany Irrigation District (BBID);
- Local surface water runoff captured in Del Valle Reservoir;
- Local groundwater extracted from the Main Basin;
- Local storage in the Chain-of-Lakes; and
- Non-local groundwater storage in the Semitropic Water Storage District.

Each of these supply sources is discussed below.

##### *4.1.3.1 State Water Project (SWP) Water*

Imported water from the SWP currently provides about 70 percent of the water used in the Zone 7 service area. This water is treated and used to meet municipal and industrial (M&I) demands, untreated demands, and is used by Zone 7 to artificially recharge the Main Basin. Under a 75-year contract with the Department of Water Resources (DWR), dated November 1961, Zone 7 receives water from the Feather River Watershed (Lake Oroville) via the Sacramento-San Joaquin Delta. Zone 7 first received deliveries from DWR in 1962. In 1997, Zone 7 reached its full contract entitlement of 46,000 afa from DWR.

Since then, Zone 7 has obtained additional SWP entitlements through water transfers from four water districts within the Kern County Water Agency (KCWA), for a total additional supply of 34,619 afa of SWP entitlements, as presented in Table 4-1. In December 1999, Zone 7 acquired 15,000 afa from the Lost Hills Water District, as well as 7,000 afa from the Berrenda Mesa Water District. In December 2000, Zone 7 finalized the acquisition of 10,000 afa from the Belridge Water Storage District, increasing Zone 7's annual entitlement to 78,000 afa. In September 2001, the Zone 7 Board approved the acquisition of an additional 2,219 afa of SWP entitlements from the Belridge Water Storage District; this additional entitlement went into effect in 2004. In addition, in 2003, Zone 7 purchased 400 afa from the Tulare Lake Basin Water Storage District.

**Table 4-1. Summary of Zone 7 SWP Entitlements**

Water Entitlement/Transfer	Contract Date	Contract Quantity, afa
Original DWR Contract Entitlement	Original in 1961; total reached in 1997	46,000
Supplemental Entitlements:		
Lost Hills Water District Transfer	1999	15,000
Berrenda Mesa Water District Transfer	1999	7,000
Belridge Water Storage District Transfer	2000	10,000
Tulare Lake Basin Water Storage District Transfer	2003	400
Belridge Water Storage District Transfer	2004	2,219
Current Annual Entitlement Total		80,619

The contracts for the first 32,000 afa of supplemental water identified in Table 4-1 (from Lost Hills, Berrenda Mesa and Belridge) were executed in 1999 and 2000. The transferred water from Kern County is based on the Monterey Agreement, which authorized the KCWA to transfer up to 130,000 afa of State Project water entitlements. Zone 7 as a State Water Project contractor has purchased this water, and environmental documentation has been approved for each contract. In 2001, there was a lawsuit challenging the water transfers; however, that litigation has now been settled and the settlement supports the validity of the transfers.

Although Zone 7's contract with DWR has been modified to an annual entitlement of 80,619 afa, the actual delivery of water to Zone 7 under this entitlement is dependent upon hydrologic conditions, requests by other SWP Contractors, SWP facility capacity, and environmental/regulatory requirements. Based on DWR's SIM Model, DWR has found that an average annual yield of approximately 75.6 percent of Zone 7's 80,619 afa entitlement can be expected from the SWP (60,948 afa) once all SWP Contractors are requesting their full entitlements. For planning purposes, Zone 7 has elected to use the average expected SWP delivery (75.6 percent) to estimate long-term sustainable yield from SWP supplies. Although Zone 7's SWP entitlement will generally yield more water in wet years and less in dry years, the use of 60,948 afa (75.6 percent of 80,619 afa) to represent an average year represents Zone 7's expected yield from the SWP over a long period of time.

In the short-term, DWR's estimate of 75.6 percent of one's SWP entitlement being available is conservatively low because Metropolitan Water District (MWD) is not yet taking its full SWP entitlement. In the short-term, MWD's failure to request its full entitlement allows other agencies to utilize this excess supply. As a result, Zone 7 historically has received approximately 80 to 85 percent of its maximum annual entitlement and will probably continue to do so over the next several years. It is also possible that proposed improvements to the SWP such as the CALFED solution could also increase the reliability of SWP deliveries. However, restrictive environmental regulations and the effects of MWD eventually taking its full SWP entitlement deliveries may offset these improvements. Therefore, use of DWR's long-term SWP delivery estimate of 75.6 percent is both conservative and appropriate for estimating long-term sustainable yields from SWP supplies.

#### *4.1.3.2 Byron Bethany Irrigation District*

In 1994, Zone 7 negotiated a short-term water transfer demonstration project with the BBID, which provided a minimum supplemental supply of 2,000 afa. This was a five-year agreement, with the potential to purchase up to 5,000 afa. In 1998, both the Zone 7 and BBID Boards of Directors approved Amendment No. 1 to the Agreement; converting this short-term transfer into a long-term, 15-year agreement to transfer a firm water supply of 2,000 afa to Zone 7. This Amendment No. 1 also allows for Zone 7 to extend the length of the agreement by an additional five years, every five years, instead of waiting for the contract to expire before it can be renewed.

#### *4.1.3.3 Arroyo Del Valle Watershed Flows*

Zone 7 and ACWD (Alameda County Water District) jointly hold water rights to flows in Arroyo Del Valle. The rights provide that Zone 7 is first entitled to the direct use of as much inflow water as Zone 7 can use directly (without storage). Second, ACWD is then entitled to the direct use of any water beyond the ability of Zone 7 to use direct inflow. Third, any flows in excess of the direct diversion needs of Zone 7 and ACWD are stored in Lake Del Valle for future use under an operating agreement with DWR. Zone 7 and ACWD then share equally (50/50) in any stored water. Zone 7 anticipates that in 2020 its demands for this water supply will be higher than they are currently.

Once additional year-round demand increases, Zone 7 will be able to directly use more of the (primarily winter) flows available in Arroyo Del Valle which is currently either: (1) not able to be stored for lack of storage space; (2) going to ACWD under the second priority; or (3) being split with ACWD under the third priority. Zone 7 has estimated that it will be able to directly use an additional 1,300 afa. Zone 7's current use of flow from Arroyo Del Valle is 8,000 afa; therefore, the future sustainable supply from Arroyo Del Valle is estimated to be 9,300 afa (8,000 afa + 1,300 afa). Ultimately when the Chain-of-Lakes are fully developed, these lakes could also be used for storage, further increasing the sustainable yield from Arroyo Del Valle. However, this increase has not been factored into the supply at this time.

#### *4.1.3.4 Local Groundwater*

As described in DWR Bulletin 118 California's Groundwater, the Livermore Valley Groundwater Basin extends from the Pleasanton Ridge east to the Altamont Hills and from the Livermore Upland north to the Orinda Upland. Surface drainage features include Arroyo Valle, Arroyo Mocho, and Arroyo Las Positas as principal streams, with Alamo Creek, South San Ramon Creek and Tassajara Creek as minor streams. All streams converge on the west side of the basin to form Arroyo de la

Laguna, which flows south and joins Alameda Creek in Sunol Valley. Some geologic structures restrict the lateral movement of groundwater, but the general groundwater gradient is to the west, then south towards Arroyo de la Laguna.

The entire floor of the Livermore Valley and portions of the upland areas on all sides of the valley overlie groundwater-bearing materials. The materials are continental deposits from alluvial fans, outwash plains, and lakes. They include valley-fill materials, the Livermore Formation, and the Tassajara Formation. Under most conditions, the valley-fill and Livermore sediments yield adequate to large quantities of groundwater to all types of wells. The quality of water produced from these rocks ranges from poor to excellent, with most waters in the good to excellent range.

The Main Basin includes portions of the Castle, Bernal, Amador, and Mocho II subbasins of the Livermore Valley Groundwater Basin. The Main Basin covers an area of over 17,000 acres, and has a storage capacity of over 255,000 af. Zone 7's estimate of the long-term sustainable yield of the Main Basin is 13,400 afa, or roughly 6 percent of the basin's total storage capacity. This long-term sustainable (natural) yield is based on over a century of hydrologic records.

DSRSD, the California Water Service Company (CWS), and the cities of Livermore and Pleasanton, through agreements with Zone 7, have mutually agreed to limit their extraction from the Main Basin to a combined quantity of approximately 7,200 afa; each of these entities has an independent groundwater pumping quota (known as their IQ). DSRSD's IQ is 645 afa. Section 4.2 describes this DSRSD groundwater supply. The balance of the sustainable yield is pumped by water users to meet other domestic, agricultural, and gravel mining demands.

Zone 7 does not currently utilize the sustainable (natural) yield from the basin, but extracts groundwater, which was previously artificially recharged from Zone 7's surface water supplies. Withdrawals from the Main Basin by other extractors in excess of the safe yield are replaced through artificial recharge operations using imported water or locally captured Del Valle Reservoir releases. Zone 7 uses artificial recharge and controlled extractions to manage Main Basin storage and associated groundwater levels. As noted in DWR Bulletin 118, under average hydrologic conditions, the groundwater budget is essentially in balance<sup>6</sup>.

As part of Zone 7's Basin Management Plan, in dry years more groundwater is pumped from the Main Basin to make up for SWP shortages and in wet and normal years, this water is replaced through surface water recharge in the arroyos. This operational practice is demonstrated in Table 4-2 (showing the past five years) and Figure 4-1, which show the net annual recharge (total groundwater recharge minus total groundwater pumpage) and the average calculated end of year storage in the Main Basin since 1974.

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<sup>6</sup> DWR Bulletin 118, Livermore Valley Groundwater Basin Description, last updated February 27, 2004.

**Table 4-2. Zone 7 Main Groundwater Basin  
Hydrologic Inventory and Storage (1999 – 2003)<sup>(a)</sup>**

Calendar Year	End of Year Main Basin Storage, af <sup>(b)</sup>	Total Groundwater Pumpage, af/yr <sup>(c)</sup>	Total Groundwater Recharge, af/yr <sup>(d)</sup>	Net Annual Recharge, af
1999	219,000	25,849	17,549	-8,300
2000	213,000	27,630	21,803	-5,827
2001	197,000	36,013	12,490	-13,523
2002	195,000	23,299	21,967	-1,318
2003	211,000	19,415	31,115	+11,700

- (a) Source: Zone 7 Water Agency Main Basin Groundwater Hydrologic Inventory for 1974-2003, Memorandum dated March 12, 2004.
- (b) Storage is calculated by Zone 7 from the mean of storage computed from groundwater elevations and that computed using the hydrologic inventory method.
- (c) Includes municipal pumpage, agricultural pumpage, mining use and subsurface basin outflow.
- (d) Includes stream recharge (natural and artificial), injection well recharge, rainfall recharge, applied water recharge, and subsurface basin inflow.

As shown, from 1999 through 2002, Main Basin storage levels decreased due to the use of groundwater to meet demands due to dry hydrologic conditions. However, 2003 was a relatively wet year, which allowed Zone 7 to recharge more and pump less, resulting in a net positive recharge to the Main Basin. During non-drought periods, Zone 7's operational practice is to keep the Main Basin essentially full, seasonally using approximately 15,000 af of storage capacity. This practice has the objective of preserving at least 225,000 af of groundwater in storage during non-drought periods to provide drought and emergency storage. The volume of drought storage available in the Main Basin is defined as up to 110,000 af. Extraction of this total quantity of water from the Main Basin would leave approximately 127,000 af of water stored in the Main Basin, equivalent to the historic minimum storage volume which occurred in the fall of 1966. Emergency storage is defined as extractions from the Main Basin in excess of 110,000 af, which would result in Main Basin storage capacity dropping below the previous historic low capacity of 127,000 af.

#### *4.1.3.5 Local Storage*

The "Chain-of-Lakes" are a series of reclaimed gravel quarry pits located just east of Pleasanton. When quarry operations are completed, the lakes will be available to Zone 7 for long-term carry-over storage and recharge to the Main Basin. Lakes H & I, with an approximate combined storage capacity of 45,000 af, became available to Zone 7 in spring of 2003. Additional lakes are anticipated to be available prior to Year 2020. Total storage when all of the lakes become available, prior to Year 2030, is anticipated to be approximately 70,000 af.

#### *4.1.3.6 Non-Local Groundwater Storage Capacity*

As discussed previously, actual SWP entitlement deliveries to Zone 7 will vary depending on hydrologic conditions. Based on Zone 7's policy criteria, Dougherty Valley must be provided with a 100 percent reliable water supply, without relying upon the Main Basin to satisfy water demands in dry years (see Section 5.0 for discussion regarding reliability). Therefore, in January 1998, Zone 7 entered into an agreement with the Semitropic Water Storage District (STWSD) for a